FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

JUNE, 1952

OHIO STATE UNIVERSITY
JUN 24 1952

Prison riots add new hazard to fire fighting. Armed guards escort fire truck to scene of blaze during recent riot in Southern Michigan Prison at Jackson, Mich. (Article on page 473)

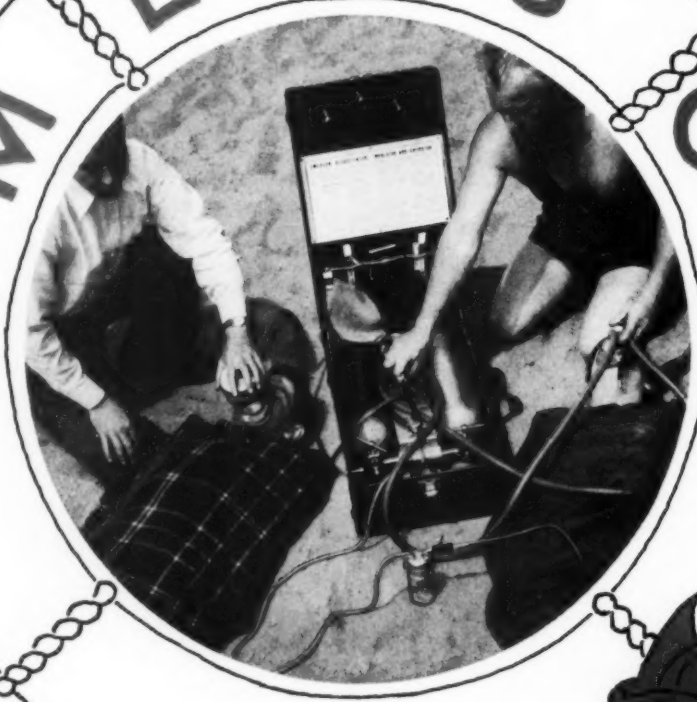
A CASE · SHEPPERD · MANN PUBLICATION

Swimming is great . . . but

are you ready

with the most effective artificial respiration known to science?

EMERSON



EMERSON Resuscitators

"Simplest and Safest"

J. H. EMERSON CO.

11 COTTAGE PARK AVE., CAMBRIDGE 40, MASS.

VITAL Equipment . . .

protected by *FEDERAL*

Dodge 145 HP chassis equipped by Harwick Mfg. Co. of West Point, Pa. Unit has Hale H.P.G. fog unit with 2 high-pressure guns. Equipped with Rockwood Foam & Wet Water proportioner; amplifying unit with portable microphone; 308 gal. water tank. Color is cream with red trim. Miscellaneous equipment includes Federal Beacon Ray Light and Federal Coaster Siren.

Here's an outstanding all-purpose apparatus . . . complete — costly — vital to community safety . . . yet practically worthless if delayed or injured by traffic. Fortunately, it is equipped with a Federal Beacon Ray Light and a Federal Coaster Siren — best assurance you can have that your apparatus will be heard and seen and allowed to fulfill its vital missions safely and with best possible speed.

You see, with the Beacon Ray you get complete 360° protection — two flashing lights that not only command attention from *all* angles but also pinpoint your location whether speeding or parked. With the Federal Coaster Siren you alert possible moving hazards sooner and more certainly thanks to Federal's extra-loud piercing wail and throbbing overtone and its coasting ability. Yes, with Federal's superior combination of signals you have the surest way of being seen and heard . . . and safe!

Write today for descriptive literature telling how you can protect your vital apparatus best with Federal Signals.

Operating in extra-noisy industrial or dock area? You need the world's *loudest* vehicle siren — Federal's all-new Q-2. Send now for Bulletin 301.

FEDERAL ENTERPRISES, INC.

FORMERLY: FEDERAL ELECTRIC COMPANY, INC.

8702 SOUTH STATE STREET • CHICAGO 19, ILLINOIS

FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING. THE FIRE ENGINEER. FIRE PROTECTION *and* FIRE SERVICE

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FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

The "Fire Business" Continues UP

FIRE losses during April were nearly $67½ million, or seven per cent over losses reported for April, 1951—according to the National Board. Even allowing for the inflationary dollar, the "business" of fire control continues to grow! There are more fires of all kinds being reported; there are more large, and serious fires; there are more unusual and different fires. In a word, fire fighters are doing more to earn their keep—and to meet the ever-increasing fire hazards peculiar to this day and age of forced production—production of goods and services (Gross National Product) that will in 1952 amount to about $340 Billion.

● That's what the fire service is protecting—a yearly gross production of $340 Billion! That's why it is important for fire forces, as well as all the people they protect, to remember that today, when production is paramount, the *protection of that production is as important as the production itself.*

● But this isn't the whole story. In addition to this responsibility, the nation's fire service must be ready to meet the threatening attack of a potential enemy—a threat which means specialized training and mobilizing of all possible reserves of manpower and equipment.

● All this emphasizes the importance of those charged with the destinies of the fire service keeping alive to what's what and who's who in the field of fire protection and prevention; which is one reason why in readership, in editorial and advertising content, FIRE ENGINEERING is more important to you than ever before in its Seventy-Five years of progress.

The Publishers

FIRE ENGINEERING

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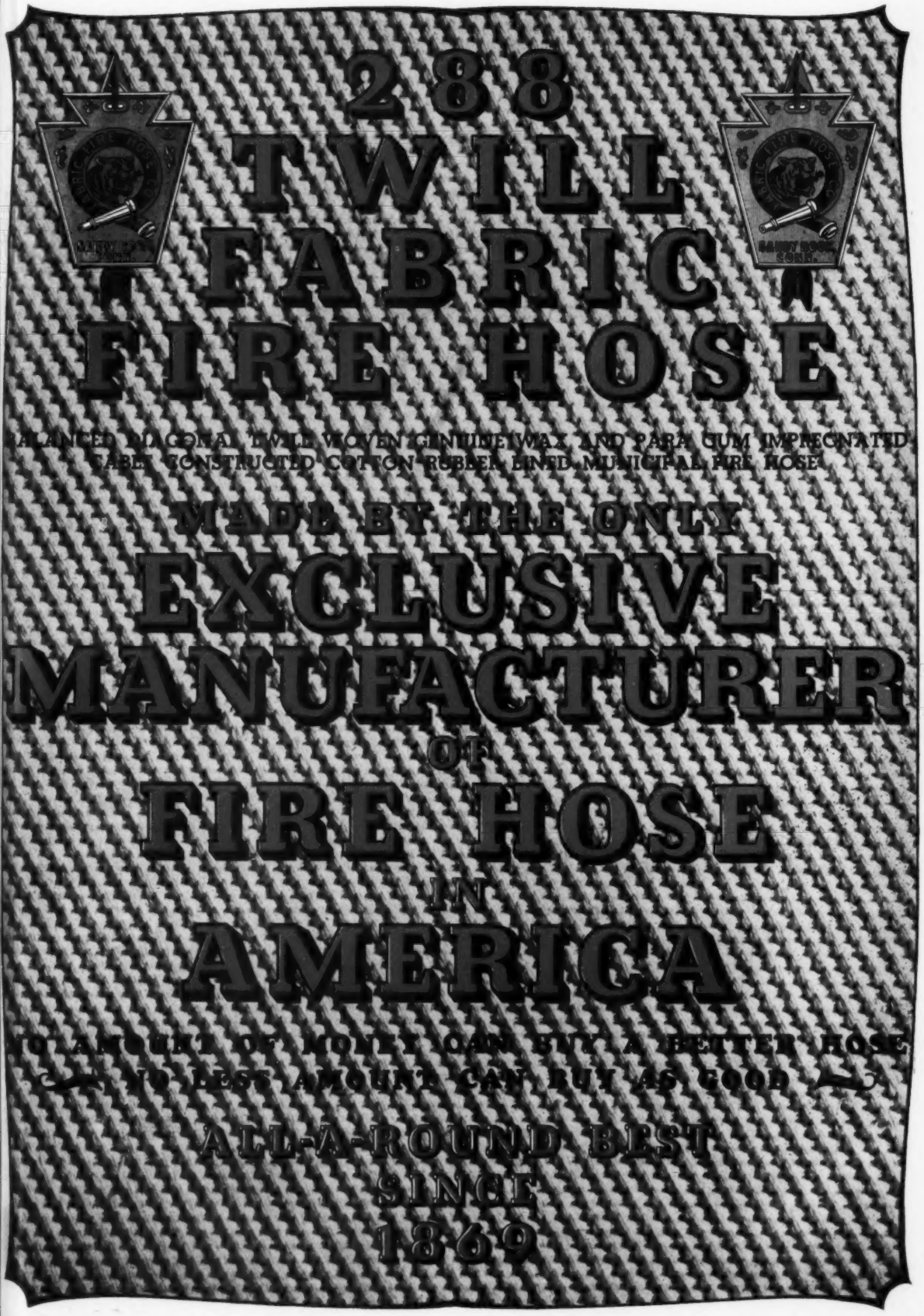
"Specialized Leadership"


288
TWILL
FABRIC
FIRE HOSE
BALANCED DIAGONAL TWILL WOVEN GENUINE WAX AND PARA GUM IMPREGNATED
CABLE CONSTRUCTED COTTON RUBBER LINED MUNICIPAL FIRE HOSE
MADE BY THE ONLY
EXCLUSIVE
MANUFACTURER
OF
FIRE HOSE
IN
AMERICA
NO AMOUNT OF MONEY CAN BUY A BETTER HOSE
NO LESS AMOUNT CAN BUY AS GOOD
ALL-A-ROUND BEST
SINCE
1869

AHRENS-FOX

...for those who insist on the finest

The advertisement that FIGHTS FIRES!

An Ahrens-Fox fire engine is more than fire-fighting equipment—it's an advertisement that says—"*This is a prosperous community—a community that deserves the finest!*"

In this day of mechanical achievement—there are many fine fire engines—but Ahrens-Fox stands in a class by itself.

The experience that stems back to the *first* practical fire engine ever built—has been augmented by constant mechanical development—and Ahrens-Fox will always offer the finest in fire-fighting equipment.

So—every "run" you make in Ahrens-Fox equipment advertises the fact that the people who look after your community's welfare have provided the finest.

Yes—Ahrens-Fox advertises the fact that *your* community has arrived. *Your* community has the best that money can buy. *Your* community is one of those who insist on the finest!

For your sake—and your community's sake—choose Ahrens-Fox. Choose it with confidence—and run it with pride!

AHRENS • FOX FIRE ENGINES

CINCINNATI 14, OHIO

B. F. Goodrich Fire King hose 50% stronger, 12% lighter, takes less space on standard truck bed

Stands higher pressures — tested to 600 pounds

It's a new chemically-produced fiber used as "filler cord" that makes B. F. Goodrich Fire King a stronger, lighter fire hose. These cords go around the hose, carry the load under pressure, and are not affected by water or mildew, mild acids or alkalies.

Lighter, more flexible cord means that Fire King hose is easier to handle, takes up less space. An additional 200 feet of Fire King can be racked on a standard truck bed because Fire King hose is 12 to 15% lighter than other fire hose.

Stands higher pressures — Actual service tests prove that Fire King fire hose is 50% stronger than standard hose which is tested to only 400 pounds pressure. Every length of Fire King fire hose is tested to 600 pounds pressure.

End protection—Fire King has the exclusive patented B. F. Goodrich end protection — an extra ply of hard woven cords extending 12" from the coupling. This adds 100% more strength to the coupling area. Not one single length of B. F. Goodrich fire hose with end protection has ever failed in the coupling area.

Fire King combines all the features of the highest grade B. F. Goodrich fire hose plus the recent improvement — Fire King reinforcing cord. The result is a premium double jacket fire hose 50% stronger, 12 to 15% lighter, yet only slightly higher in cost. It is available in both 1½" and 2½" sizes.

There's a B. F. Goodrich Fire Hose Distributor near you, ready to bring this and other BFG hose improvements to your department. Give him a call, or write *The B. F. Goodrich Company, Industrial & General Products Division, Akron, Ohio.*

Fire Hose
BY
B.F. Goodrich

Only ANSUL

HAS A COMPLETE LINE OF DRY CHEMICAL FIRE EXTINGUISHING EQUIPMENT

. . . . . Your

BEST PROTECTION

FOR FLAMMABLE LIQUID, GAS AND ELECTRICAL FIRES

MODEL 20-B

MODEL 4-A

MODEL 4-B

HAND PORTABLES

MODEL 30-B

MODEL 20-B

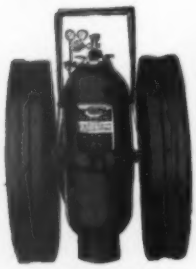
There is an Ansul Extinguisher of the proper size for each of your flammable liquid, gas and electrical fire hazards. With Ansul Equipment the size and nature of the hazard truly dictate the extinguisher model to be provided. And each Ansul Extinguisher Model, regardless of size, is designed for one man operation.

Many years of field experience and development have combined to make Ansul Dry Chemical Fire Extinguishers superior products. These years of field experience under all operating conditions have dictated to Ansul engineers the avenues for attack in their design and developmental work. With Ansul Extinguishers you get . . . watertight construction for dependable operation; sturdy, corrosive-resistant construction for long life and low maintenance costs; quick, positive operation for near-expert results by inexperienced personnel; quick, easy, on-the-spot recharge for continuing fire protection; a complete line of dry chemical fire extinguishing equipment including models approved for operation at –65°F.

For hazards involving flammable metals such as sodium, potassium, magnesium, zinc, etc., Ansul Met-L-X Dry Powder Extinguishers are available in 30, 150 and 300 lb. capacities.

WHEELED PORTABLES

MODEL 150-A



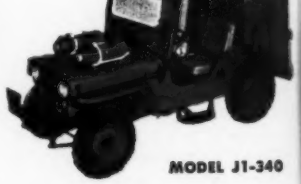
MODEL 350-A

• STATIONARY EXTINGUISHERS AND PIPED SYSTEMS •

MODEL 2000-B

PIPED SYSTEM

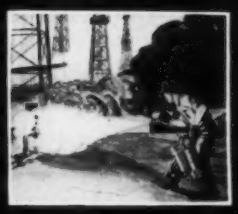
TRUCK MOUNTS, TRAILERS AND FIRE TRUCKS



MODEL J1-340

Ansul Dry Chemical Fire Extinguishers are listed and approved by the Underwriters' Laboratories, Inc. and Factory Mutual Laboratories for flammable liquid (Class B) and electrical (Class C) fires. Certain models carry U. S. Coast Guard approval for marine fire protection. They are also recommended by insurance companies for control of surface fires in textile lint and paper dusts. Thousands of Ansul Extinguishers are used by petroleum producers, pipeline companies and public utilities for protection against fires in propane, butane, natural gas, illuminating gas, etc.

TEXTILE LINT FIRES



FLAMMABLE LIQUID FIRES

GAS FIRES

ELECTRICAL FIRES

Before you buy additional fire protection equipment, get complete information on Ansul Equipment. Send for File No. 214. Besides our latest catalog this file contains other helpful material published by Ansul Chemical Company as a special service to our friends and customers.

ANSUL

CHEMICAL COMPANY

FIRE EXTINGUISHER DIVISION

MARINETTE • WISCONSIN

OFFICES AND DISTRIBUTORS IN PRINCIPAL CITIES IN THE U. S. A., CANADA AND OTHER COUNTRIES

MANUFACTURERS OF INDUSTRIAL CHEMICALS, REFRIGERANTS AND REFRIGERATION PRODUCTS

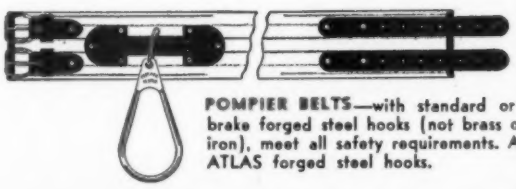
ATLAS

The World's Finest Life Nets

You just can't beat an ATLAS Life N for fast rescue work. Every aerial and mo pumpers should carry one. Every depa ment should be thoroughly familiar wi handling them at top speed. They c eliminate dangerous, exhausting ladder re cue work. You can rely on an ATLA Years of experience have given us t "Know How" that has resulted in what t entire fire field now knows as "The Worl Finest Life Net." Specify ATLAS—alwa —for pumpers, aerials and hose trucks.

TRAINING NETS for drill tower work can save serious injury to your men—at the same time giving them greater confidence while training. The construction of training nets is a highly specialized job—and we have been producing them for fire departments in all parts of the country. Come to ATLAS for all net requirements!

CRASH AXE—Axe and handle one piece forged steel. Moulded rubber insulated handle tested for 20,000 volts. Well balanced. Note unique cutting edge and pick for quick cutting and ripping. Heat treated and hardened cutting edge for metal cutting or ripping. Standard equipment on aircraft. With or without leather sheath.



POMPIER BELTS—with standard or h brake forged steel hooks (not brass or c iron), meet all safety requirements. Ask ATLAS forged steel hooks.

Always SPECIFY—

ATLAS *"The World's best life net"*
27 Warren Street, New York 7, N. Y.
SAFETY EQUIPMENT CO., Inc.

50 YEARS OF FIRE FIGHTING PROGRESS

WE LOOK BACK . . . TO LOOK AHEAD

In 1902 with twelve employees—a foundry and machine shop, Albert E. Hansen, a native of Norway, founded the Elkhart Brass Mfg. Co., Inc. From this modest beginning, Elkhart has grown in size and stature to its present position as the largest manufacturer of portable fire fighting equipment in America. Fifteen hundred years' experience represent the three hundred thirty persons now employed. *A moments reflection on this past—its guidance . . . its determination . . . its aggressiveness—serve as firm and deeply planted guide posts as we move into our second half century.*

PRODUCTS PROOF OF PROGRESS

Within Elkhart's 126 page catalog of quality products many stand out as ***firsts*** . . . the first of their kind anywhere. Among these are: Mystery Fog Nozzle, Jumbo Mystery Nozzle, Chief Shut-Off Nozzle, Leader Line Siamese, X-Trude Coupling and the Tri-Loc Nozzle Holder.

ELKHART BRASS MFG. CO., INC.

ELKHART, INDIANA

1902 — 1952

MYSTERY FOG NOZZLE

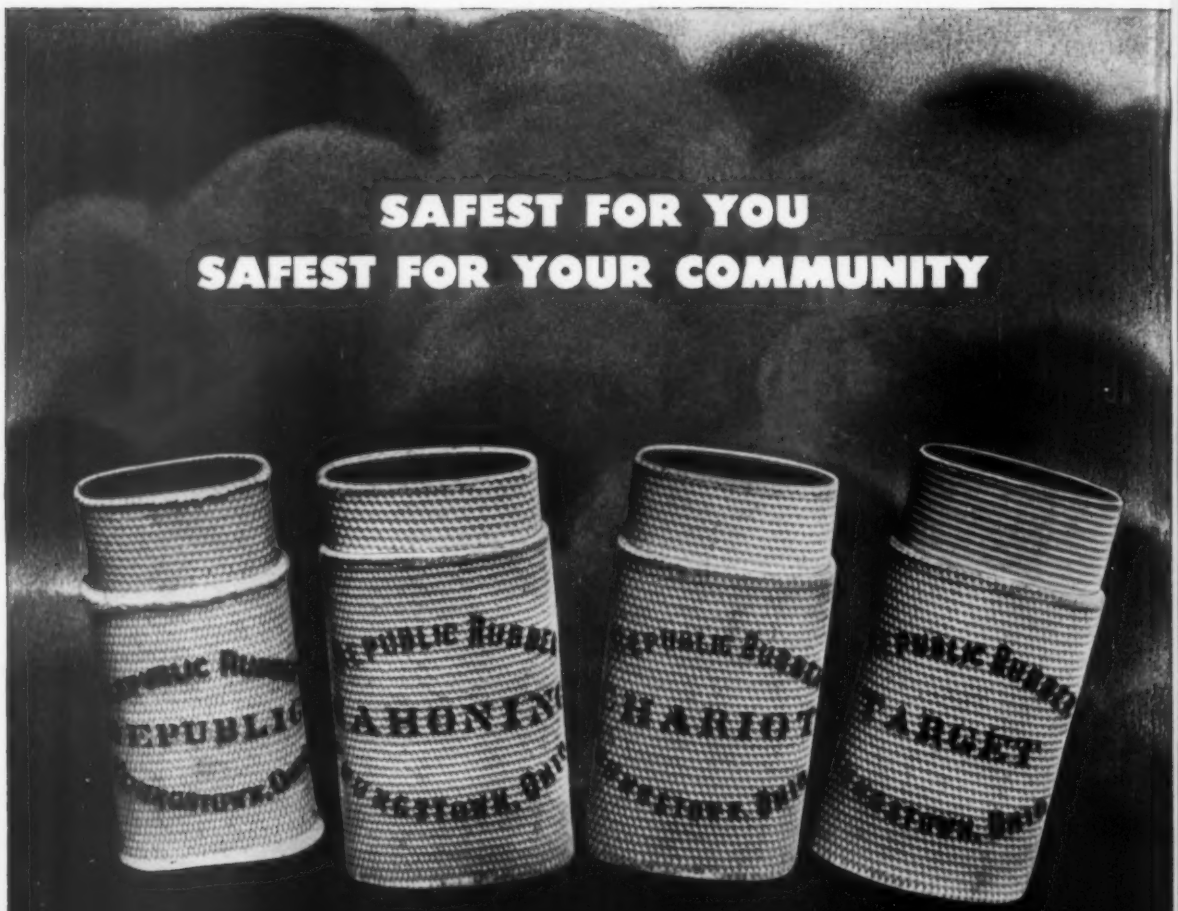
JUMBO MYSTERY NOZZLE

CHIEF SHUT-OFF NOZZLE

LEADER LINE SIAMESE

X-TRUDE COUPLING

TRI-LOC NOZZLE HOLDER



Flaw-proof Republic Rubber Fire Hose, made with **counterbalanced** fabrics firmly united with specially compounded, friction-reducing tubes, offers you maximum economy combined with the highest possible degree of protection. There's a special type of Republic Fire Hose designed for your requirements . . . a hose specially treated to stand up against mildew and other storage hazards. Ask your local Republic Distributor to make a free analysis of your needs or write direct for information about this long-term protection for you and your friends.

INDUSTRIAL RUBBER PRODUCTS BY
REPUBLIC RUBBER DIVISION
Lee Rubber & Tire Corporation
YOUNGSTOWN, OHIO

In Darby, Pennsylvania.

3 *New* 750 g.p.m. Pumpers
1 *New* 1000 g.p.m. Pumper

are now in active service. Darby Fire Company No. 1 purchased one model EMPIRE 1000 g.p.m. pumper and one model INVADER 750 g.p.m. pumper. Darby Fire Patrol No. 2 purchased two model INVADER 750 g.p.m. pumpers. The Darby Fire Companies, in their modernizing program, selected these new Cab-Ahead-of-Engine pumpers for the proven quality and reliability of American-La-France Fire Engines.

All These *Extra Values* Are Provided Only by AMERICAN-LAFRANCE

- **V-12 Engines, American-LaFrance built for dependable, long life service.**
- **Maximum driver visibility and safety with cab-ahead-of-engine design.**
- **Shorter turning radius and easier steering for greater safety in narrow streets and traffic.**
- **No color fading, with durable 10 coats of pyroxylin lacquer.**
- **5 man seating—open or closed all steel cab optional.**
- **Shock absorbers, double acting hydraulic both front and rear.**
- **TRIPLEFLOW 2 stage centrifugal pumps—American-LaFrance built.**
- **Exhaust ejector type primer for pump. Fast operation. No gears or clutch to maintain.**

• ***For Details of These Extra Values and MANY MORE, Write for Illustrated Booklet.***

AMERICAN-LAFRANCE-FOAMITE CORPORATION
ELMIRA, NEW YORK, U. S. A.
LAFRANCE FIRE ENGINE AND FOAMITE LIMITED
TORONTO 9, ONTARIO, CANADA

Your Enemy is No Gentleman

Never go to face your deadly enemy with "tired", vulnerable weapons. For this foe of all of us . . . fire . . . is a shifty, sneaky adversary . . . ever-alert, always the opportunist, never a sportsman.

Your best bet to meet him on his own terms is with weapons he can't deny: preparation, training, ample and well-maintained equipment.

And the equipment is where we can help you.

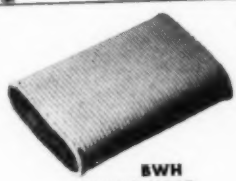
In the matter of fire hose, for instance, BWH Fire Hose is always ready to answer the bell. Light in weight, easy to handle on ground or ladder, flat-cured to ride snug in truck bed.

BWH
"BOSTON FIRE JACKET" HOSE
Double Jacket

Heavier, stronger fibers, perfect adhesion, smooth, friction-resistant water-way. Rates tops in every test!

BWH
"PARAMOUNT" HOSE
Double Jacket

Designed for easy handling and long service on tough jobs. Ages well, withstands high pressures.



BWH
"MILO" HOSE
Single Jacket

For long, trouble-free performance in communities where a light service hose is adequate.

BWH
"UNDERWRITERS" HOSE
Single or Double Jacket

Made in strict accordance with the National Board of Fire Underwriters' specifications. Labeled or unlabeled.

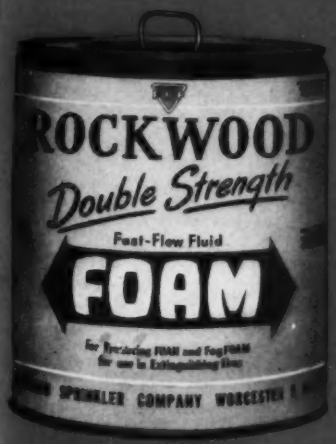
BWH
DEPENDABLE RUGGEDNESS

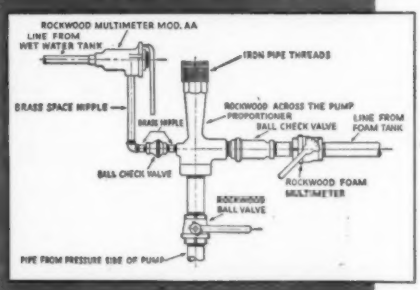
Another Quality Product of

BOSTON WOVEN HOSE & RUBBER COMPANY

Warehouse Stock: 111 N. Canal St., Chicago, Illinois **Distributors in all Principal Cities**

PLANT: CAMBRIDGE, MASS. • P. O. BOX 1071, BOSTON 3, MASS., U. S. A.





Cut Your Fire Losses

With This Tested

Rockwood Equipment

ROCKWOOD TYPE FFF FogFOAM NOZZLE WITH FogFOAM SCREEN puts out large fires in gasoline, benzol, and other highly volatile flammable liquids. Provides far greater extinguishing action than ever before possible with old-style chemical or mechanical foam equipment. Used in industrial plants, oil transport companies, refineries, airports, and municipal fire departments. Three sizes for service on 1½", 2½", and 3½" fire hose lines.

Nozzle provides three different discharges . . . FogFOAM with *screen* (shown), solid FOAM stream with *foam shaper* (not shown), and/or high-velocity WaterFOG by shutting off FOAM liquid. Through FogFOAM screen, 2½" size discharges 200 gpm @ 100 psi. Range: approximately 30 feet. Approved by Underwriters' Laboratories, Inc.

ROCKWOOD DOUBLE STRENGTH, FAST-FLOW FLUID FOAM LIQUID (3%) extinguishes large spill fires in gasoline with maximum speed and safety to firemen. More fluid, faster spreading. Mixed with 97 parts water, it forms excellent foam blanket that quickly re-seals if broken. Flows freely at sub-zero temperatures (−15°F). Clings to metal surfaces as an insulator. Will not cause corrosion and is easily washed off.

Used with fire hose line nozzles and permanently piped FogFOAM and FOAM installation. Comes in 5-gallon cans or 50-gallon drums.

Approved by Underwriters' Laboratories, Inc.

Regular Rockwood FOAM Liquid (6%) also available in 5-gallon cans or 50-gallon drums.

ROCKWOOD MODEL DUAL "B" AROUND-THE-PUMP PROPORTIONER automatically feeds FOAM liquid or wetting agent into hose lines. Eliminates waste, assures accurate mixing. Used when pressure is maintained by a pump from draft supply or booster tank. Operates in range from ¾" booster lines to 2½" hose lines.

Multimeter settings admit proper amounts of wetting agent for varying nozzle discharges and solution strengths — metering valve serves same purpose on FOAM side of eductor. Ball check valve prevents water from backing into FOAM liquid container.

Maximum nozzle discharge when using FOAM liquid: 200 gpm — when using 1% wetting agent solution: 100 gpm.

Custom-engineered proportioning systems for all mobile equipment are also available.

GET YOUR COPY of this informative, illustrated, 12-page booklet on Rockwood Fire Fighting Products. Write direct to Rockwood Sprinkler Company, 54 Harlow Street, Worcester 5, Massachusetts.

ROCKWOOD

ROCKWOOD SPRINKLER CO.

Engineers Water...to cut fire losses

Mayor Vincent Impellitteri tries out G-E 2-way radio in reservoir patrol jeep. Standing by are Seymour N. Siegel, center, director of CD communications, and Water Commissioner Dominick F. Paduano. Mobile patrol provides anti-sabotage protection of city's water supply.

KEY RADIO SYSTEM

for New York Civil Defense Network

INSTALLED BY GENERAL ELECTRIC

Reservoir Patrol in Radio Jeeps Guards Against Sabotage, Protects City's Water Supply

WORKING closely with civil defense officials, General Electric communication engineers have designed and installed a flexible radio system which can be expanded easily to cover more municipal defense requirements at any time. The mobile radio units operate on the assigned 40 kc channels, but in the event of future channel-splitting by FCC, the city's equipment can be adapted readily to the new conditions. Transition components have already been supplied by General Electric.

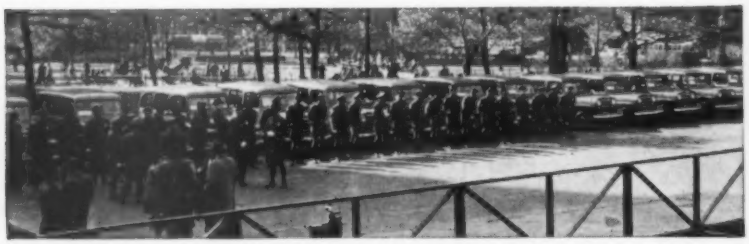
Your communication problems are the concern of General Electric's CAS*. It's a valuable service to municipalities of any size. Call the G-E office near you for details, or write us: *General Electric Co., Section 5962, Electronics Park, Syracuse, N. Y.*

*Communications Advisory Service

Radio patrol covers 1000 square miles of vital watershed area. Patrolman at jeep radio talks instantly to points as far away as 40 miles, depending on terrain. Signal is clear, dependable.

G-E transmitter and remote control units equip 9 land stations. In event of enemy attack, system can be operated from any one of several emergency locations in the metropolitan area.

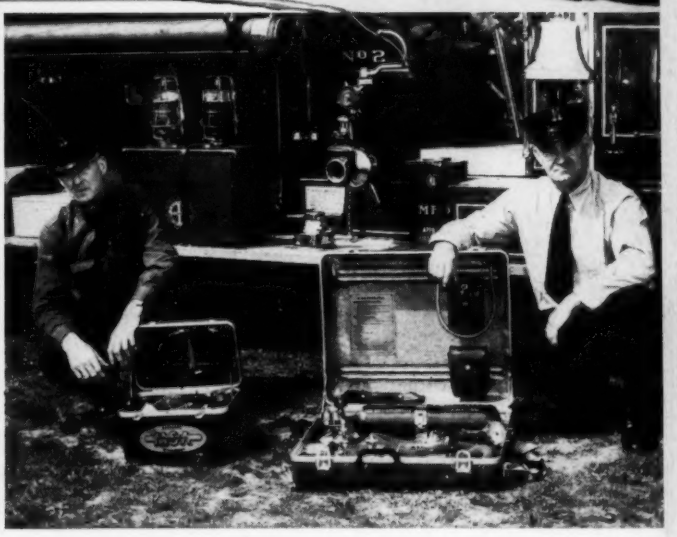
GENERAL ELECTRIC



Property owners will benefit from radio patrol's daily reports, designed to speed repair work of city's water department. G-E radio equipment is being installed in 15 additional repair trucks.

"Here are two good reasons why we have all the faith in the world in the Pneolator-"

says FRED CARMAN,
Assistant Fire Chief, Meadville Fire Department, Penna.



"Gas heater . . . fumes . . . young couple unconscious" . . . reported the excited voice over the phone.

Seconds later, Assistant Fire Chief Fred Carman and his crew were speeding to the rescue. Fumes from the flueless gas heater were still heavy in the apartment when they arrived. The M.S.A. Pneolator and auxiliary attachment which permit simultaneous treatment of two persons were applied to the victims. After 45 anxious minutes, the Pneolator's automatic life-saving artificial respiration brought the victims around. Their recovery was complete after a check-up at the local hospital.

"Those two young people, alive today, are two good reasons why we have all the faith in the world in the Pneolator" said Assistant Chief Carman.

This confidence is shared by Pneolator-equipped fire departments across the nation. They have found that the Pneolator assures maximum chance of recovery in all cases of arrested breathing. There is no suction phase in the breathing cycle. Write today for detailed facts on this newest development in automatic artificial respiration.

Note: The first few minutes after breathing has ceased are the most critical. Immediate application of manual artificial respiration should be started and continued until the Pneolator is in use.

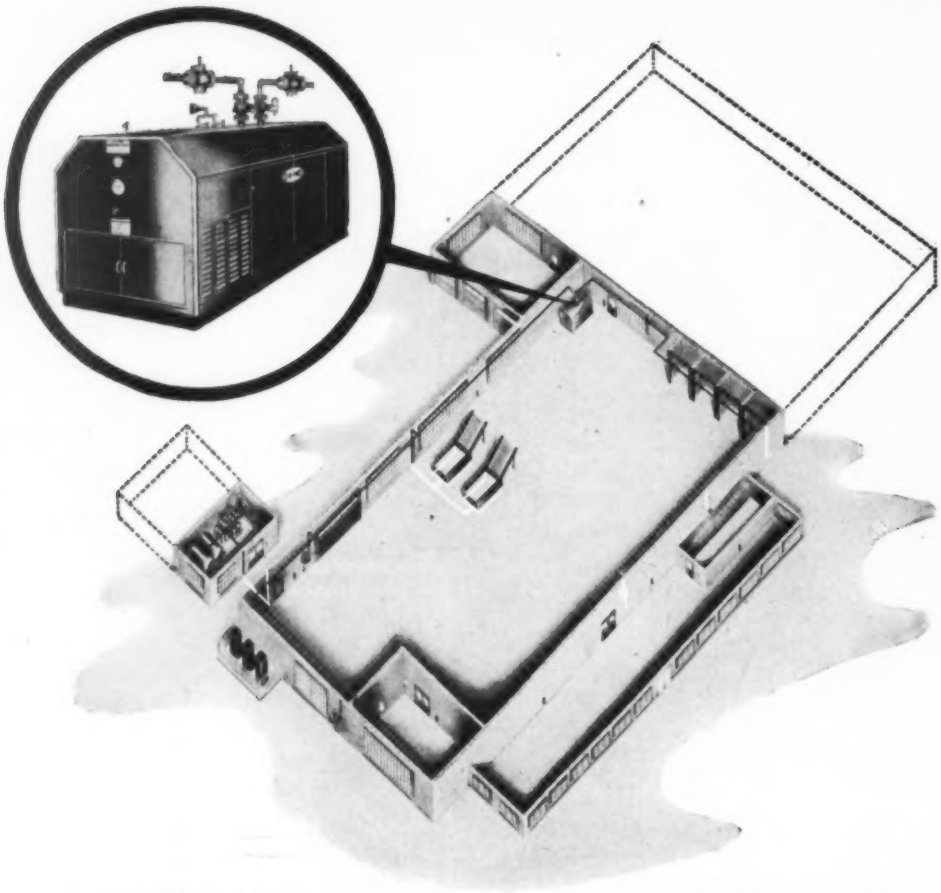
MSA
SAFETY EQUIPMENT HEADQUARTERS

Call the M.S.A. man on your every safety problem . . . his job is to help you.

MINE SAFETY APPLIANCES COMPANY
BRADDOCK, THOMAS AND MEADE STS., PITTSBURGH 8, PA.
At Your Service: 68 Branch Offices in the United States

MINE SAFETY APPLIANCES CO. OF CANADA, LIMITED
Toronto, Montreal, Calgary, Winnipeg, Vancouver, New Glasgow, N.S.

Representatives in Principal Cities in Mexico, Central and South America
Cable Address: "MINSAF" Pittsburgh



EXPANSIBLE FIRESAFETY

from a single LOW PRESSURE CARBON DIOXIDE storage tank

When expanding your plant, you can't afford to wait for additional fire protection...you need the proper amount at once. However today, material priority regulations slow you up considerably...these delays hold back vital production and resulting revenue. Install a C-O-TWO Low Pressure Carbon Dioxide Type Fire Extinguishing System in your plant now and new construction to come will be firesafe from the start.

With a C-O-TWO Low Pressure Carbon Dioxide Type Fire Extinguishing System, simple piping, running from one centrally located storage tank, instantly transports clean, non-damaging, non-conducting carbon dioxide anywhere in the plant area...to flammable liquids, electrical equipment, storage spaces, manufacturing processes and record vaults. Fire at any protected location is extinguished in seconds with an absolute minimum of expense and interruption.

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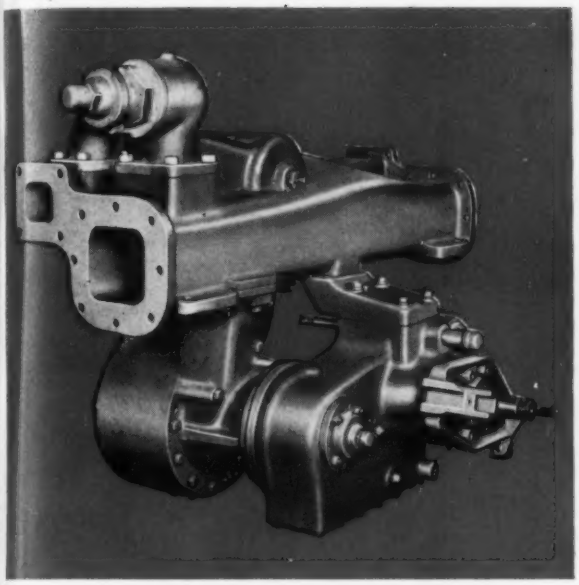
Don't take chances with future delayed installations; secure the benefits of highly efficient fire protection engineering today...our extensive experience over the years is at your disposal without obligation. Get the facts now!

C-O-TWO

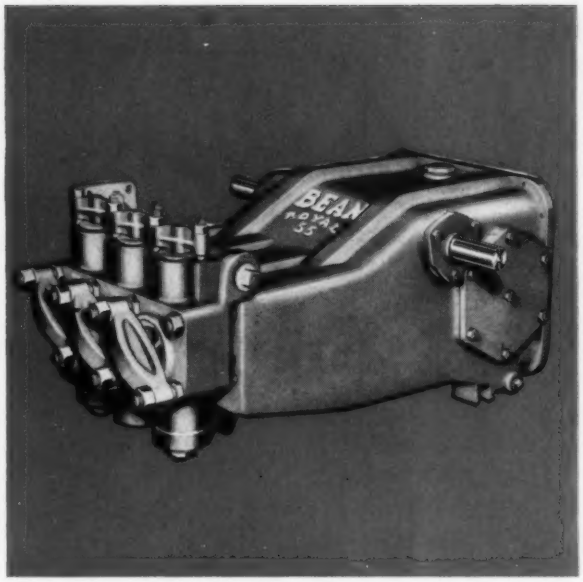
C-O-TWO FIRE EQUIPMENT COMPANY
NEWARK 1 • NEW JERSEY
Sales and Service in the Principal Cities of United States and Canada
Affiliated with Pyrene Manufacturing Company

MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers • Dry Chemical Type Fire Extinguishers • Built-In Smoke and Heat Fire Detecting Systems
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems



SLUGGING firepower for the John Bean HPV Fire Fighter is supplied by the Bean volume pump. Dependable, long-lived performance is assured by simplified solid-case design, built-in crossover system, four-bearing impeller shaft, oversize bearings, and other advanced engineering features. The Bean volume pump is compact, simple to operate, easy to service.



YOU GET fast-striking high-pressure fog with the famous John Bean ROYAL High-Pressure Pump. Bean fog is TRUE high-pressure fog developed by a positive-displacement, three-cylinder pump. Long life and trouble-free performance result from porcelain-lined cylinders, stainless-steel ball valves and valve seats, and rugged eccentric drive with helical-cut gears.

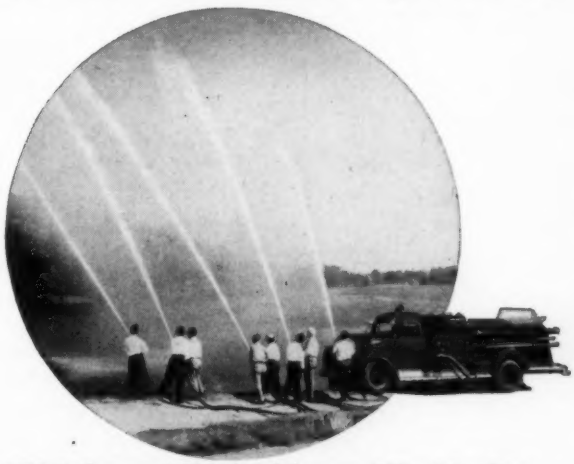
JOHN BEAN TWO-PUMP fire fighters deliver the one-two knockout punch

Two-Fisted Fire Fighting Demands Full Volume And True High-Pressure Fog TOGETHER. You Get It With John Bean Two-Pump Design.

WHEN FACE-TO-FACE with a tough fire, you appreciate the hitting power of the John Bean two-fisted HPV Fire Fighter. The one-two knockout punch of FULL VOLUME and TRUE HIGH-PRESSURE FOG is at your instant command because of John Bean two-pump design.

Two lines of fast-striking high-pressure fog are supplied by the rugged John Bean High-Pressure Pump operating from its own independent water supply. Three lines of slugging firepower from the dependable Bean volume pump can be put into service AT THE SAME TIME. By combining volume and true high-pressure fog, you get ALL THE FIRE-POWER from a John Bean HPV Fire Fighter when you need it most.

Get the facts about John Bean Two-Fisted Fire Protection. Write today!



HERE IS firepower! *Two-fisted* firepower! The John Bean HPV Fire Fighter is supplying 60 gallons a minute for two high-pressure fog lines at 850 lbs. pump pressure and, AT THE SAME TIME, three 2½-inch volume lines deliver 750 gallons a minute at 150 lbs. pump pressure. Two-fisted firepower from two-pump design.

JOHN BEAN *TWO-FISTED* FIRE FIGHTERS

Can be mounted on most standard truck chassis

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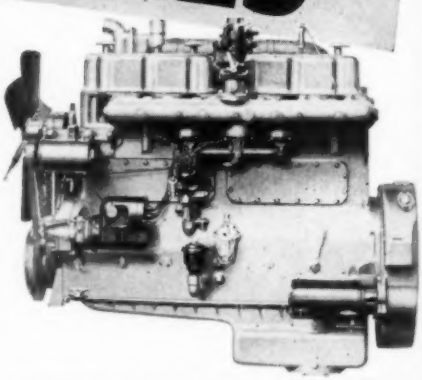
● Fast starting . . . packed with power . . . for speedy runs, and to put pressure plus behind the pumps. That's why Waukesha *high output* engines are first in fire fighting.

That's why pumpers built by Pierre Thibault of Pierreville, Quebec are Waukesha-powered. The pumper shown, built for Cite de Salaberry de Valleyfield, has a Waukesha 145 GKB High Output Fire Fighter Engine. When the Underwriters gave it a 12-hour test on the St. Francois River, the weather was 15 degrees below zero and the water level, 9 feet. Test results: 1250 U. S. gallons per minute at 120 lb. p.s.i.; and 1062.5 U. S. gallons per minute at 150 lb. p.s.i. "So we are more than satisfied with the 145-GKB Waukesha" says Jean B. Duchesneau, Chief Mech. of Pierre Thibault.

It's the fire fighters' engine—with fully counterbalanced 3½-inch, 7-bearing crankshaft; twin ignition; torsional vibration dampner; downdraft carburetion; overhead valves with Stellite faced exhaust valves and seats; removable wet sleeve cylinders and every other wanted feature.



WAUKESHA Model 145-GKB High Output FIRE FIGHTER Engine—Six-cylinder, 5¼-in. bore x 6-in. stroke, 779 cu. in. displ.; develops 240 hp at 2400 rpm. Arranged for full electrical equipment, air brake compressor and all modern accessories. Send for Bulletin 1594.

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This improved line of Dry Chemical Fire Extinguishers sets a new standard for efficiency. Designed especially for quick, easy use, General Fire Guards combine strength, appearance and efficiency for greater effectiveness and added safety. All models are Underwriters' Laboratories approved and labeled for use on gas, oil, paint, grease and electrical fires.

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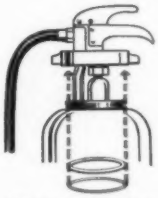
SHELL
Silicon Bronze, Weather-proof construction, Non-Rusting Lifetime Metal.



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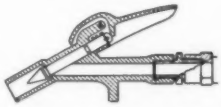
Double sealed by gasket and "O" ring combination to insure pressure retention plus weather-proof protection.



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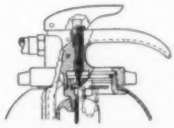
Designed to seal out moisture, yet open automatically if excessive pressure develops.

CARTRIDGE
Replacement cartridge comes charged and ready for use, complete with safety release.



SPECIAL SAFETY FEATURE
So that Carbon Dioxide cartridge cannot work loose, a special safety U-lock pin is provided.

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Panic-proof, dual-action rip pin insures discharge will take place, once seal is punctured.

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CONTROL-FLO *Apparatus Valve*

OPERATES EASILY FROM LOWEST PRESSURE TO THE BURSTING PRESSURE OF YOUR FIRE HOSE

The Control-Flo apparatus valve operates easily at any pressure assuring quick, trouble-free use. You can control various hose line pressures independently without changing pump speed. By simply turning the throttle handle a breaking mechanism locks the ball valve open in any position.

WILL TAKE PRESSURE OR VACUUM IN EITHER DIRECTION

You can be assured of long-lasting, leak-proof valve operation when you specify Control-Flo valves on your new pumper for either suction or discharge use. Several apparatus manufacturers are now using this Control-Flo valve as standard equipment on their pumpers, other manufacturers will install them to meet your requirements. These valves are available in all thread or flange combinations for replacement of obsolete or worn-out valves.

Control-Flo valves will take pressure in either direction, for either discharge or intake. Holds vacuum for priming. The exclusive seal ring principle makes this possible. The full, round construction of the waterway leaves no obstructions and assures against turbulance and pressure loss. Can be furnished with remote controls for across-pump operations.

REDUCING SIAMESE WITH CONTROL-FLO VALVES

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Superior quality, design, fabric texture and many exclusive features have made Midwestern Protective Clothing the leader wherever men fight fires. Mackinaw Coats and other famous Midwestern garments help safeguard the fireman's life on every run . . . enable him to efficiently use his equipment to the fullest advantage.

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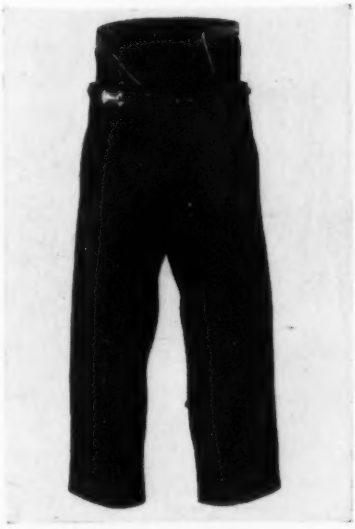

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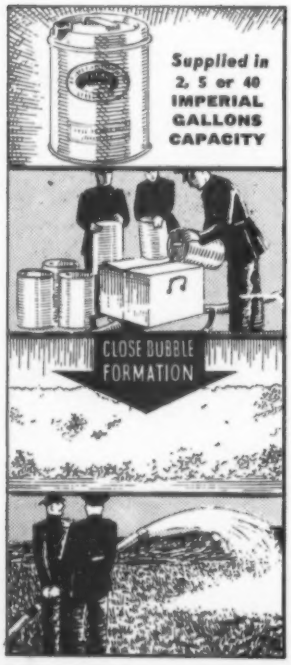
MIDWESTERN MFG. CO., Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Coats**

Kills Oil & Petrol Fires with SPEED & CERTAINTY



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★ Nicerol can be used in any type of mechanical foam or air foam apparatus. In this case a base injection type in-line inductor is being operated.

★ The secret of Nicerol effectiveness lies in the small bubble formation. It creates a tough, efficient blanket. 3 gallons of Nicerol and 100 gallons of water will produce over 1,100 Imperial gallons of foam.

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Meet the hazard of fire with Nicerol, the foam compound that kills any oil or petrol fire quickly and absolutely. Nicerol is a concentrate, producing a heavy type foam of closely-knit small bubbles which form a tough, vapour-tight blanket over the surface of burning oil or petrol. It is characteristic of Nicerol Foam that it flows with the fire and is highly resistant to flash-back or re-ignition. It can be used successfully in any type of mechanical foam or air-foam apparatus — is equally effective with salt water or fresh and can be stored for years without deterioration.

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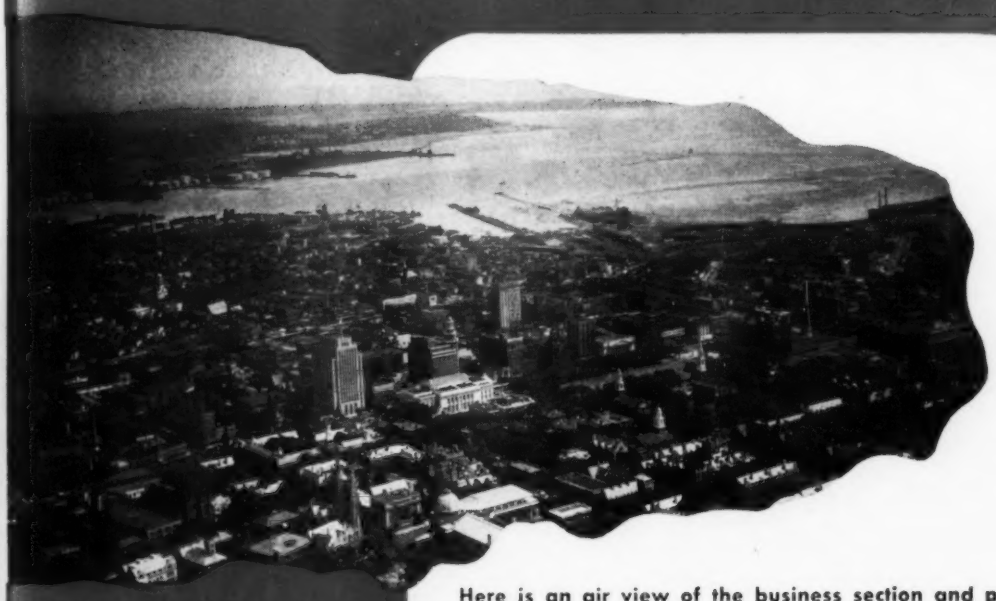
In New Haven- IT'S SEAGRAVE



Here is an air view of the business section and port of New Haven, Connecticut . . . A thriving industrial city with outstanding school facilities and fine residential neighborhoods . . . Another of the long list of American cities depending upon Seagrave Apparatus for fire protection.

The list of Seagrave Protected Cities grows every day. The record proves that Seagrave Apparatus costs no more but delivers a lot more in power, efficient operation and years of dependable service. Why should your city accept less?

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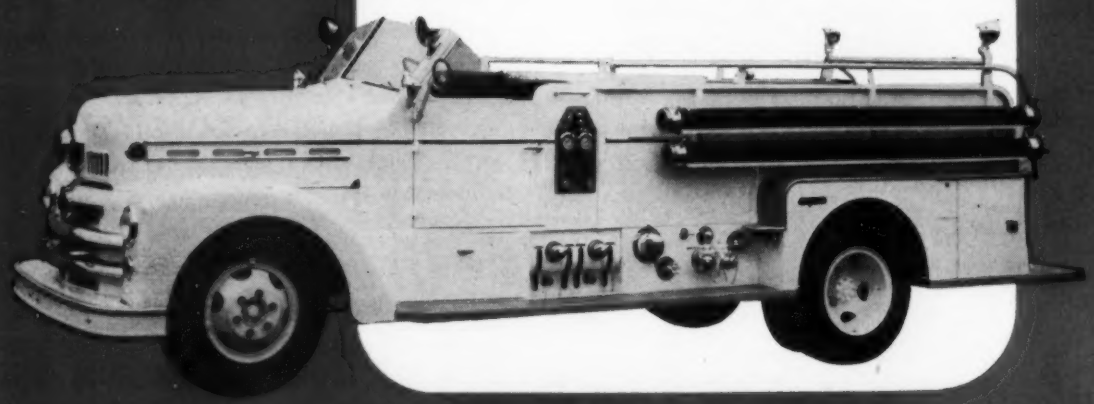

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Any department LARGE or SMALL can find plenty of use for a HOMELITE Carryable PUMP

For getting rid of water from a fire

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You use it to get water. You use it to get rid of water. You use it before, during and after a fire.

That's right! You can use a Homelite to fill booster tanks. You can use it to pour water on rural or brush fires directly from a nearby brook, river, pond or well. And you can use it to pump out flooded cellars without tying up expensive equipment or needed manpower.

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Across America — in cities large and small — you'll find Ward LaFrance Pumpers in service. For more than 30 years, they've been a familiar sight on the nation's fire-fighting scene.

Why? Because Ward LaFrance Pumpers have proved their ability to perform under a wide range of conditions. These rugged pumpers come with engines in 130, 150, 200, 240 or 250 H.P. — deliver the weight-to-horsepower ratio so necessary for quick get-aways and climbing hills.

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AKRON BALL-TYPE VALVES offer numerous advantages:

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more FIRSTS...

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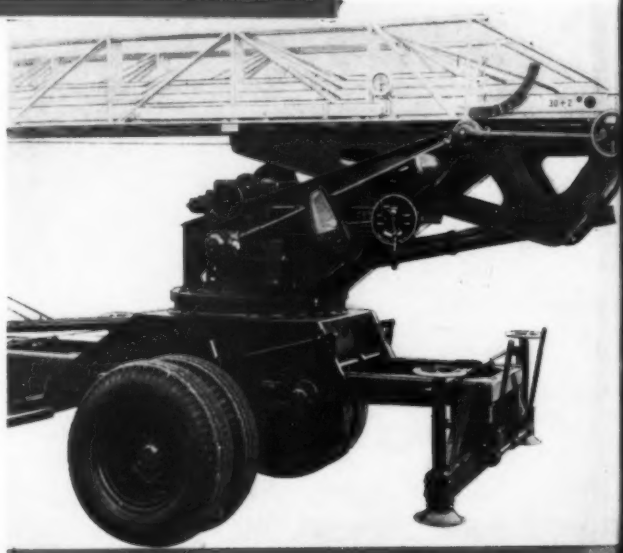

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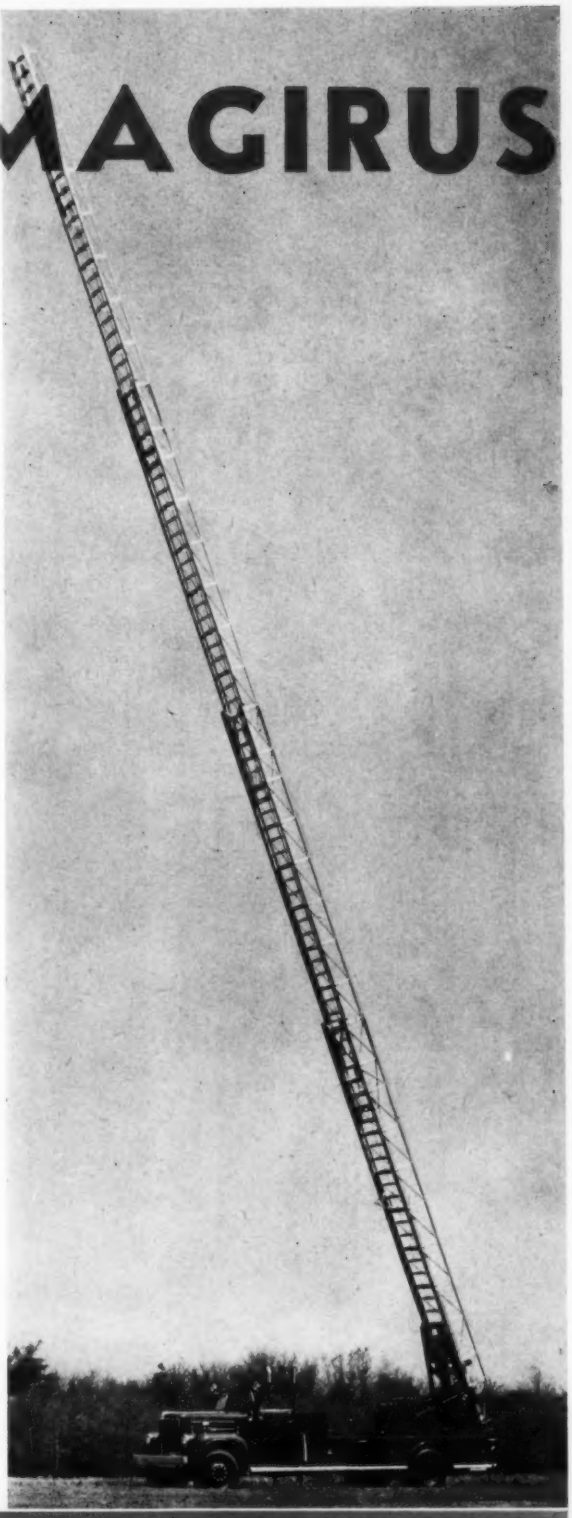

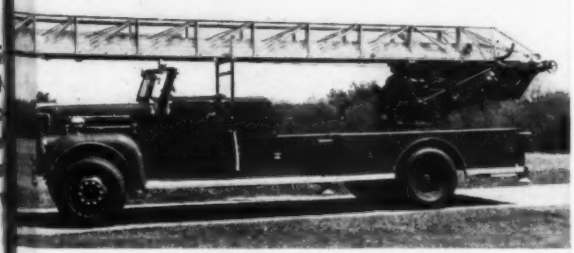

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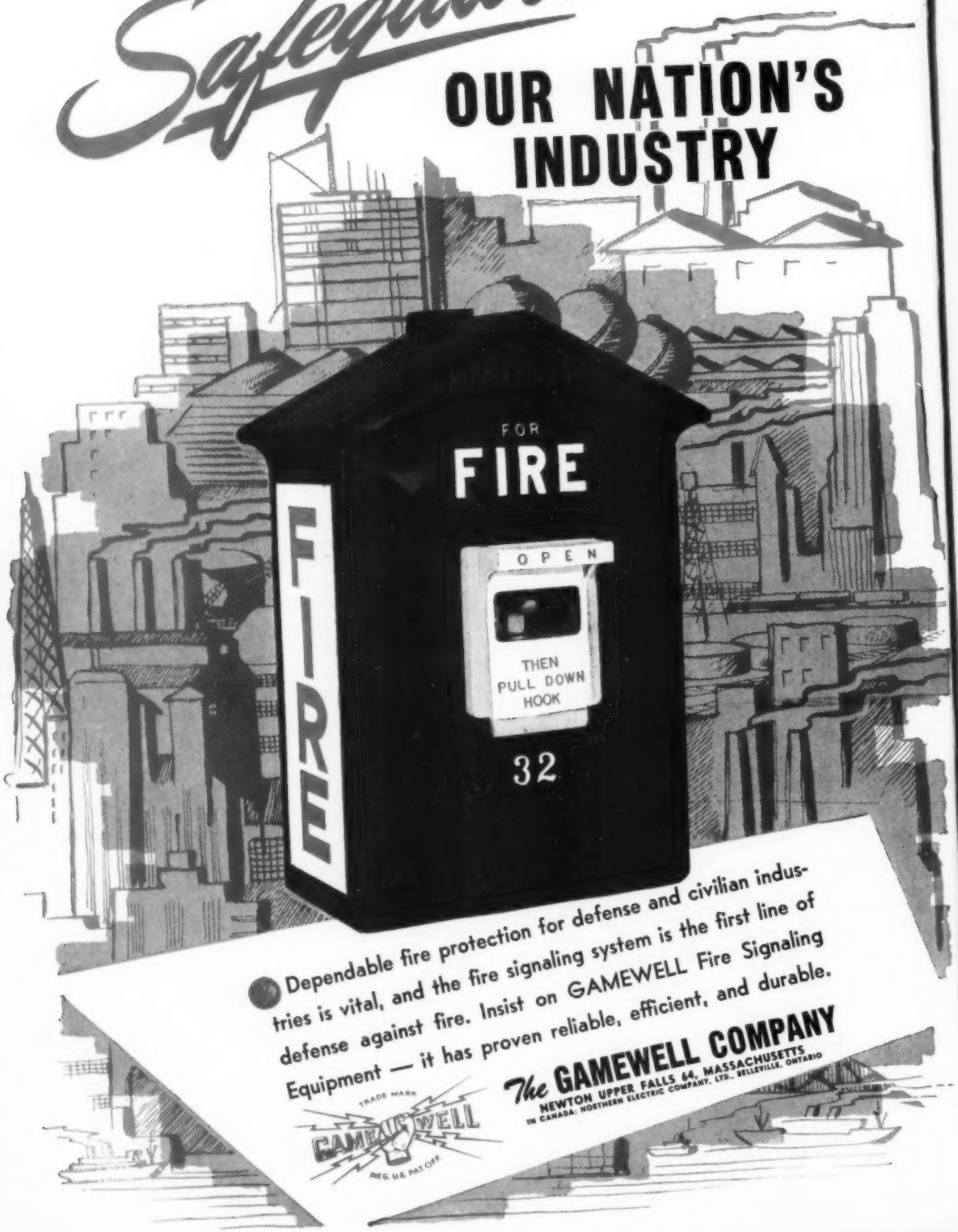

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JUNE, 1952

FIRE ENGINEERING

VOL. 105, NO. 6

With the Editor

Memo to Congress— Put Meat on the Bones

Federal Office of Civil Defense has published its first annual report, for the year 1951. It's a blue covered volume, the reading of which would leave the nation feeling blue indeed. Not that we believe this Federal agency has not done the best job it could with the meager facilities given it, but rather, and based on what has not been done as well as what has been accomplished, one gets the full impact of the terrific task that lies ahead, if this nation is ever to even approach perfection of its protection against modern enemy attack.

In his letter transmitting the First Annual Report to the Congress, President Truman says: "A great deal has been accomplished by the Federal Government, the States and our local communities to get the (C.D.) program under way. All this is good. But it is not nearly enough. The report shows the growing strength of our civil defense program. But it also shows the shortcomings—and these shortcomings are matter of grave concern. We have the skeleton of a good civil defense organization. Now we need to add millions more of volunteers. We need vastly increased stockpiles of medical and other supplies. We need shelters. We need extensive training of our people in areas vulnerable to attack. We need all these things before we can begin to feel reasonably secure about the defense of the United States. . ."

What the President meant was that it won't help any to rattle the skeleton of civil defense. There's still a rattling skeleton of civil defense labelled "World War II" in a closet somewhere in Washington. The nation spent over $100 million for only a part of that skeleton, and when the threat of war was ended or believed so, all that had been learned about civil defense was stuck in the closet called "Archives". And now the Congress and the officials who are responsible for national welfare and safety are making the same mistakes of World War II.

What the nation needs now is some "meat" on this civil defense skeleton, if civil defense is ever to have breath of life and energy; meat, in the form of more than lip service, from our law makers, starting with Capitol Hill, where will shortly be debated the proposed $600 million civil defense measure recommended for the coming fiscal year; meat, in the form of men and materiel to effectuate the existing civil defense programs, which are, in turn, little more than paper skeletons; meat in the form of recognition of the need of the nation to set up adequate defense against the greatest threat to our safety and well being—FIRE, from not only atomic bomb, incendiary and H. E. bombs, but from the subversives who wear the red label and carry on their arson activities in the black of night right in our midst.

What is needed, and what the Congress will have to consider, are the sinews, the muscles, the brains for this poor civil defense skeleton. These include not merely volunteer civil defense workers, and reserve and extra firemen, but the tools and equipment which they must have to wage this necessary defensive and offensive war against fire.

Last year Congress was asked for a minimum of $33,770,000 with which to procure fire fighting equipment, on a state-matching basis to augment protection of our "target areas." It gave two-and-one-quarter million! To date, some 246 standard first department pumpers with their equipment have been allocated the 30 states reported to include "critical target areas." The capable, but undernourished staff of the Fire Services Division in Washington has stretched those dollars as far as they will go, and is still trying to find further funds to meet the requests for equipment. Much the same story is true of the Divisions charged with Communications, Rescue, Attack Warning and Medical. Individually they've built the nimbus of a civil defense skeleton. But that's all it is—a framework which, unless given "meat", cannot hope to do more than rattle as a "political skeleton" in some Washington Bureau's "closet."

Of course we are prejudiced. But we have the evidence on our side to prove that the greatest threat in any war is FIRE. Therefore, fire fighters, fire control and prevention engineers should logically have the first consideration in any civil defense program, and appropriation.

We don't know what Director Kyle Laughlin and his capable aides of the Fire Services Division have asked for in the way of funds for the current FDCA budget. But we do know that whatever it is, it is the very minimum with which they can produce effective results.

Fred Shepard

New Developments in Methods Of Summoning Volunteers

By ROI B. WOOLLEY*

NO one seriously questions the importance of adequate communications in the control and extinguishment of fires. The ablest firemen with the best equipment and an ocean of water at their disposal can't do a thing about extinguishing a fire until they are summoned. And the more quickly they are called and get on the job, the better for them and the worse for the fire.

This simple truth alone should be sufficient to inspire those responsible for controlling destructive fire to devote to communication facilities the same thought, time, trouble and money that they give other essentials of the Fire Service. Unfortunately, however, all the evidence indicates this is not being done —particularly it is not being done in the field of the volunteer fire fighters, where the problem of communications presents complexities not found elsewhere in the Fire Service.

It is not my purpose to attempt to place the blame for the failure to bring Fire Service communications in the volunteer fire service into line with the improvements being made in other essentials of the Fire Service—almost any volunteer fire officer can give you the answer to that question, and it usually takes the form of one word—MONEY! Rather, I want to briefly trace the more recent developments in communications as they affect the volunteer fire fighter and all those people, and the wealth of property he protects.

Perhaps, by so doing, I may furnish the incentive and inspiration to encourage the volunteers to plug this critical gap in their set-up. Certainly in relating these developments to the volunteer fire service and its needs, I can bring into sharper relief the vital importance to the nation, and to its defense production effort, of that service—an importance that at times is overlooked and unappreciated.

If sheer numbers could annihilate fire, the volunteers should have an easy task of it. Although nobody has the correct figures, there must be nearly 14,000 volunteer fire departments and close to 1,000,000 volunteer fire fighters in this branch of the nation's fire forces. I might add that whereas the number of municipal full-paid fire departments is more or less static, the number of volunteer departments is growing continually, particularly in the rural and township areas. At the same time, I should add that the number of paid, full-time firemen in the volunteer fire companies is also showing a healthy growth.

That the volunteers, no less than their professional brothers, are called upon to fight large scale blazes (in addition to the usual brush and forest fires) is evidenced by a few pertinent statistics released in the NFPA's January, 1951, *Quarterly*. According to that authority, there were twenty-one fires in the United States and Canada in 1950 in which the losses were over $1,000,000. The most destructive of these, the Rimouski, Quebec, $14,000,000 conflagration, and many of the others, were fought entirely by volunteers, in some cases, aided by the professional blueshirts.

There also were 243 fires in 1950 where property loss *exceeded a quarter of a million*. The losses in these fires of $152 million—plus, we're told, were 20 per cent of the nation's *total* fire loss of that year. These fires, by occupancies, occurred in these numbers:

Occupancy	1950	1949
Manufacturing	83	67
Transportation	31	23
Mercantile	29	26
Storage	23	43
Habitational	11	11
Miscellaneous	66	48
	243	218

Normally, one might believe that fires in such occupancies as manufacturing, mercantile and the like would be more abundant in cities or areas protected by paid departments. **Actually, however,** according to the NFPA, "more than one-third of the fires occurred in towns having less than 5,000 population or in locations outside city limits in contrast with less than 20 per cent that occurred in cities of over 100,000 population where high property values are concentrated. "The comparatively weak fire protection services noted in many small communities," the report goes on, "explains in part, the disproportionately large number of fires in small towns."

Of the 83 fires in the manufacturing classification, some 54 were fought almost *entirely* by volunteer firemen, and of the remainder, which were battled by paid fire fighters, volunteers assisted in nearly a dozen instances.

In the transportation group at least 17 were fought by volunteers compared with 11 fought by paid departments, and three by both paid and volunteers. In the mercantile, storage and habitational groups, operations were about 50-50, while in the miscellaneous category, the volunteers operated on at least 46 of the 66 fires, and I believe aided in nearly a dozen more.

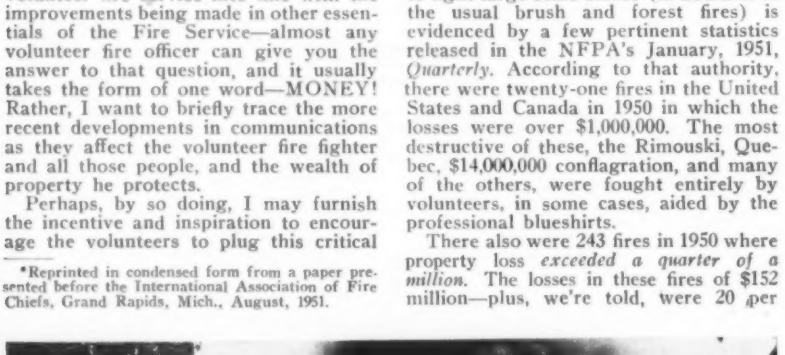
These data illustrate the importance of the volunteers and of bringing their fire control and extinguishing facilities into line with other branches of the Fire Service.

Unquestionably, as the NFPA points out, the difficulties and handicaps under which many volunteer fire departments operate contributed to the heavy property losses (and the heavy *life* loss also) in these categories. Of these handicaps, that of receiving and transmitting alarms, and of alerting and speeding the volunteer firemen on their way, rate well at the top of the list.

Too Great Dependency Upon Telephone?

The majority of volunteer fire departments are forced to depend almost entirely upon the telephone as the means of transmitting and receiving alarms of fire—and of alerting firemen. Few are fortunate enough to have any sort of fire alarm system with a central office and street fire alarm boxes. And of these communities, only a small percentage can boast of anywhere near adequate box distribution. Only a small

*Reprinted in condensed form from a paper presented before the International Association of Fire Chiefs, Grand Rapids, Mich., August, 1951.



Early arrival of volunteers makes possible a good "stop." An efficient and speedy means of summoning them is vital.

Volunteer departments handle the majority of rural fires. Prompt and full response frequently means the difference between heavy and light loss. Here, volunteers check a spreading grass and brush fire before it involves dwelling.

number of town and village departments make any serious attempts to improve upon their public alarm system by adding to the number of boxes, placing alarm wires underground and employing proper maintenance service. Here development has been slow. And here is ample room for improvement.

The problem of reporting alarms becomes more serious in the rural areas where distances are great and telephones few and far between. In time, the telephone companies doubtless will do away with the bothersome "party line" which has been responsible for much serious delay in reporting fires, with consequent costly after-affects in loss of lives and property; at present, however, this remains a development "devoutly to be desired".

The "Wireless" Fire Alarm Box

The hope of the residents of these areas and the departments serving them, which, for engineering or economical reasons cannot install suitable wire fire alarm systems, may lie in the "wireless fire alarm system" which, although still in the experimental stage, nevertheless offers considerable promise. Briefly, the system consists of a series of "radio boxes" similar to the conventional fire alarm box, on standards, with an antenna and signal light. When used as a straight fire alarm box only, a radio transmitter is required, but, if desired, a receiver also may be added permitting two-way conversation between box and central office. Boxes include, beside the radio transmitter and receiver (optional), a microphone, loudspeaker, antenna, code calling and tuning mechanism, and a source of energy in the form of primary batteries.

In operation, the radio box is "pulled" similar to the conventional box, which energizes mechanical escapement which, after a few seconds interval to heat tubes, turns on the transmitter and sends to headquarters a coded tone signal indicating the location of the particular box operated. This signal can be received like any conventional signal on tape recorder, punched and dated. The operator at headquarters then may speak to the person reporting the emergency to secure additional information, if desired. When the box is operated, the signal light on the pedestal flashes a notification to police and passersby. Within 3 to 5 minutes the box automatically turns itself off and is ready for another alarm. If desired, it can be used as a G.H.Q. by the fire forces on the fire ground for fire fighting communications.

It is also possible for this box system to actuate a coded horn or whistle and, through relays, to light up a fire station and perform other functions.

A variation of this alarm system was introduced in 1946. It consisted of small, self-powered radio transmitters called "pull boxes" which could be strategically located to transmit signals which automatically activated a fire alarm. Pulling the box transmitted a coded signal to the unattended fire station. There an "impulse alarm control" set in motion a device which caused a siren to sound for 20 seconds, followed by Klaxon code signals indicating the number of the "pulled box". These were repeated three times. A non-interfering mechanism prevented a confusion of signals, should two boxes be pulled simultaneously.

If desired, with this system selective high sensitivity receivers could be installed in the homes of key members of the department to notify them direct of the call, doing away with public alarm.

Thus it will be seen that where the accepted municipal fire alarm systems, for any reason, cannot be installed in rural or suburban areas, the most promising development for tomorrow may lie in some adaptation of these "radio" fire alarm systems.

Meanwhile, some improvements are being made in the receiving and handling of fire alarms by volunteer departments. The primary requisite, of course, is some 'round-the-clock agency, the preference naturally being a 24-hour watch service at fire headquarters. However, this is difficult to maintain without paid personnel. The next best source is the local or nearby police or sheriff's headquarters, or telephone exchange. These agencies are best equipped to receive emergency calls and alert the fire forces. As an expediency, however, volunteers are making out with many other improvised local sources such as factories and creameries, railroad stations and signal towers—even railroad gate-tenders. Whatever the means employed, however, at present main reliance for receiving alarms is still the telephone.

Dial Phone Offers Complications

The introduction of the automatic or dial telephone system has not helped the picture—rather the reverse. If no local 'round-the-clock fire department watch service is maintained, citizens must dial some other designated receiving source to send all alarms. This may be a telephone operator at the nearest exchange or one of the beforementioned sources. In some areas, alarms are received and transmitted by a county fire control center.

Under the old manual system, the telephone office in many communities, served by volunteers, was the sole information center for the volunteers who called the operator to learn the location of the fire (telephone companies had different methods of handling these calls). With the advent of the dial system, no phone operator was in on the connection, and some other method had to be devised for alerting the firemen.

Two suburban communities near Chicago, having regular full-time and volunteer firemen, satisfactorily met this problem by using a recording machine

(*Continued on page* 468)

Two persons had perished in this fire before the arrival of volunteer fire fighters. Prompt response depends upon an effective means of summoning the volunteers.

Industrial Fire Fighting

Part 5 of a Series

By W. E. ROSSNAGEL
Fire Protection Engineer

V Selection of Extinguishers for Some Typical Fires

Below are given the first, second and third choices of extinguishers for a number of typical fires. To some extent this is a matter of personal preference, particularly where 2nd and 3rd choices are given, and all fire fighters may not be in complete agreement with these recommendations.

Pile of scrap wood or rubbish
(1) 2½ gallon Soda-acid, Anti-freeze, or 5 gal. Pump Tank,
(2) 2½ gallon Foam,
(3) 15 or 20 lb. Dry Chemical, followed by water to extinguish embers.

Waste basket full of paper
(1) 2½ or 5 lb. CO_2,
(2) 2½ or 5 lb. Dry Chemical,
(3) 2½ gal. Soda-acid or 5 gal. Pump Tank.

Small frame tool shanty
(1) 2½ gal. Soda-acid, Anti-freeze, or 5 gal. Pump Tank,
(2) 2½ gal. Foam,
(3) 15 or 20 lb. Dry Chemical, followed by water to extinguish embers.

Paint locker
(1) 15 or 20 lb. Dry Chemical,
(2) 15 lb. CO_2,
(3) 2½ gal. Foam.

Metal clothes locker
(1) 2½ gal. Soda-acid, or 5 gal. Pump Tank,
(2) 2½ to 5 lb. CO_2,
(3) 2½ to 5 lb. Dry Chemical.

Motor vehicle engine
(1) 2½ to 5 lb. Dry Chemical,
(2) 5 lb. CO_2,
(3) 1 qt. Vaporizing Liquid, pressurized type,
(4) 1 qt. Vaporizing Liquid, hand-pump type.

Pan of high flash point oil (fuel oil, etc.)
(1) 15 or 20 lb. Dry Chemical,
(2) 15 lb. CO_2,
(3) 2½ gal. Foam.

Pan of low flash point oil (gasoline, naphtha, etc.)
(1) 15 or 20 lb. Dry Chemical,
(2) 2½ gal. Foam,
(3) 15 lb. CO_2.

Low flash point solvent flowing or spilling from container
(1) 15 or 20 lb. Dry Chemical,
(2) 15 lb. CO_2.

Propane or acetylene leaking from piping or hose
(1) 15 or 20 lb. Dry Chemical (Do not extinguish unless flow or gas can then be stopped by closing a valve).

Upholstery, drapery, etc.
*(1) 2½ to 5 lb CO_2, followed by water if necessary,
(2) 2½ gal. Soda-acid, or 2½ gal. Pump Tank,
(3) 2½ to 5 lb. Dry Chemical, followed by water if necessary.

Small drying oven
(1) 15 or 20 lb. Dry Chemical,
(2) 2½ gal. Foam,
(3) 15 lb. CO_2.

Paint spray booth
(1) 15 or 20 lb. Dry Chemical,
(2) 15 lb. CO_2,
(3) 2½ gal. Foam.

Flammable dust. (Aluminum, flour, cornstarch.)
(1) 15 or 20 lb. Dry Chemical, used so as to not disturb the dust excessively,
(2) Water-fog.

Kitchen stove fires
(1) 2½ to 5 lb CO_2,
(2) 2½ to 10 lb. Dry Chemical.

Kitchen duct and chimney fires
(1) Dry Chemical, the size depending upon the installation.

Plastic objects or material
(1) 15 or 20 lb. Dry Chemical, followed by water, if necessary,
(2) 2½ gal. Soda-acid,
(3) 2½ gal. Foam.

Retail store merchandise
*(1) 15 lb. CO_2, followed by water if necessary,
(2) 2½ gal. Soda-acid, or 2½ gal. Pump Tank,
(3) 15 or 20 lb. Dry Chemical, followed by water.

Electric switchboard
(1) 15 lb. CO_2.

Electric motor
(1) Vaporizing Liquid, 1 gal. or 1 qt. size,
(2) Dry Chemical,
(3) CO_2 (size of each depending on installation).

High voltage oil circuit breakers, etc.
(1) 15 or 20 lb. Dry Chemical,
(2) 15 lb. CO_2.

Magnesium chips or dust
(1) Special Magnesium extinguishing powder,
(2) Powdered soapstone,
(3) *Dry* sand.

*This type extinguisher is not approved by the Underwriters for this kind of fire. Nevertheless, in order to minimize the damage to adjacent materials the CO_2 extinguisher may be tried first on any incipient fire.

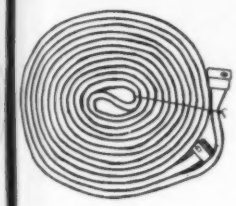
VI Heavy Duty Portable Fire Equipment

For fires advanced beyond the early stage, a 2½" fire hose connected to the building stand-pipe or yard hydrant must be called into use. If the pressure is greater than 50 lbs. per sq. in., have another man help you to hold the nozzle; otherwise it may get away from you, whip and do some damage to your anatomy.

Fire hose should always be wound on the hose carts with the male coupling next to the reel, and with the female coupling on the outside of the roll. Then when called into use, pull the hose cart *to the hydrant first*, couple the hose to the hydrant, and pull the hose cart toward the fire. Leave all the slack hose near the fire so you can advance into or around the fire if necessary. Never go to the fire first, and then allow the surplus hose to remain at the hydrant.

Fig. 26

Spare lengths of hose should always be wound in "doughnut" rolls (Figs. 26 and 27). To make this roll, stretch the



DOUGHNUT ROLL

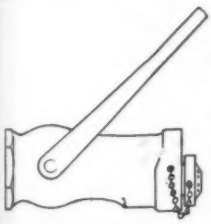
Fig. 27

hose out straight for its entire length, then grasp the *male* coupling and pull that end of the hose back on top of the other part, laying the male coupling about 4 to 5 feet back from the female coupling. Starting at the fold, roll the hose up tightly, walking backwards with your heels close to both sides of the hose on the ground to keep it in line.

When thus wound up the exposed threads on the male coupling will be protected against damage by being between the wraps of the hose. To unwind the hose, two men grab the two couplings and pull the hose out straight without a kink.

You have learned that no one extinguisher is listed by the Underwriters Laboratories, Inc., for all three classes of fires. There is, however, one extinguishing agent that is effective on all fires, and that is water fog (a very fine spray of water). Water extinguishes principally by cooling, and cooling (the absorption of heat) is accomplished by the evaporation of the water.

If you wish to dry a wet handkerchief, you don't wad it up, but rather stretch it out and hang it up so that both sides are exposed to the air. In other words, you present the greatest possible surface to the air. The same is true with water fog. Water from a 1" hose nozzle presents a relatively small surface area, but the same amount of water from a fog nozzle will present many thousand times as great a surface. In other words, fog evaporates and absorbs much more heat, and puts out a lot bigger fire, and more quickly, too.



High velocity fog nozzle

Fig. 28

A familiar type of high-velocity fog nozzle is shown in Fig. 28. Fog from such a nozzle can be used on a Class "A" fire with excellent results, for it wets down a much larger area, and incidently does less water damage. We have all seen fires in factory loft buildings, in the city, where the firemen had a half-dozen hose lines going into the building, and where the water was running out the front door like a miniature Niagara Falls. Well, every bit of the water which ran out was totally wasted.

The water that puts out a fire comes out of the building as water vapor (steam) mixed with the smoke.

Water fog can be used on Class "B," or oil fires, but we will skip them now and come back to them later. Fog can also be used safely on Class "C," or electrical fires. You have been taught in years gone by never to use water on electrical apparatus. That is still good advice. Don't use water on live apparatus if it can be avoided.

A "solid" stream of water from an ordinary nozzle is a relatively good conductor of electricity. If the stream, before it begins to break up, is directed at a live conductor, the current will come down the stream to the nozzle, and it may shock the men holding the hose. But when water is used in the form of fog each tiny droplet is insulated from the other droplets by air which offers great resistance to the flow of electrical current.

High-velocity fog can, if necessary, be safely used near, or even on, live apparatus at voltages up to the maximum used in industrial plants and in most power plants and substations. The higher the water pressure, the safer is the use of fog on high voltages, and the more effective is fog in extinguishing a fire. So, use the highest practicable pressure.

At each class of the Consolidated Edison Company's Fire School the students practice holding the brass high-velocity fog nozzle (Fig. 28) in their bare hands while standing on wet ground, six feet away from a grid energized at 27,000 volts to ground, and using salt (sea) water. That is about the worst combination of conditions one can imagine. Nevertheless, it is still good practice to de-energize the equipment involved before trying to extinguish the fire.

Now to come back to the Class "B" fires. High-velocity fog can be used effectively on fires in high-flash-point oils, etc., for it extinguishes by cooling. It will "knock-down," although it will not ordinarily extinguish, fires in low-flash-point liquids; so use fog at once on all fires. Fog will also cool the adjacent combustible materials, walls and ceiling, and by cooling down any heated metal it will reduce the danger of re-ignition.

The high-velocity fog nozzle produces a conical curtain of fog (a solid cone, not a hollow cone like from a garden hose nozzle). When thrown up in front of you, this fog protects you from the heat, flames, smoke and gas. The fog nozzle requires 50 to 125 lbs. per sq. in. pressure, the higher the better. Moving the nozzle in a rotary motion, you advance *slowly* but surely toward the fire. Standing still will not put out the fire. On the other hand, if you walk in too fast, you may have to unexpectedly back up.

The purpose of the rotary motion is to throw up a very wide curtain of fog in front of the fire to protect you from the heat, as well as to extinguish the fire. Inasmuch as there is an unlimited supply of water, the fog nozzle should be opened *before* approaching the fire. After the fire is believed to be out, *back* away with the fog nozzle *open*, just in case there should be reignition.

Don't use the high-velocity fog nozzle when approaching a fire in a confined location, such as a small windowless room. High-velocity fog induces a draft of air, making the fire momentarily hotter. For every cubic foot of air and fog thus injected into the room, a cubic foot of hot gas and flame must come out to make room for it, and the fire fighters may be seriously burned.

If two or more hose lines with fog nozzles are to be used on a large fire, don't come up to the fire from opposite sides, for each fire party will drive the flames toward the other. Rather, both parties should come up from the same side of the fire, preferably one party ahead of the other. The leading fire party will take a drenching, but they will be doubly protected from the flames, and from danger should their hose fail.

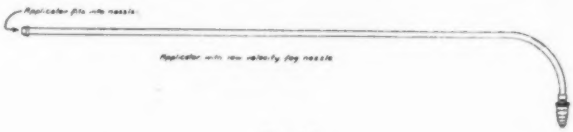


Fig. 29

The high-velocity fog nozzle can be used on perhaps 90% of the fires, but for fires in inaccessible locations and for those in low-flash-point liquids, the low-velocity fog nozzle has a place all of its own. This low-velocity nozzle is attached to the end of a bent applicator pipe which in turn is coupled to the high-velocity fog nozzle after the fog tip has been removed (see Fig. 29). This nozzle throws out a big "lazy umbrella" of fog which may be used to cover the burning liquid like a housewife uses a pot lid to cover a frying pan of burning grease, and thus extinguishes the fire

by smothering as well as by cooling. Low-velocity fog can be used on low flash point liquids and on fires in confined locations, as well as on fires in otherwise inaccessible locations, but never on Class "C" fires.

The fog nozzle should never be used on unlined linen hose (the thin, flat hose installed at most standpipes in industrial buildings) because lint loosened from the inside surface of the hose may soon clog the small openings in the fog nozzle and render it inoperative. Use only the cotton rubber-lined fire hose.

Large oil fires may also be successfully handled by means of foam delivered from hose lines. There are two kinds of foam for use in this manner, chemical foam and mechanical foam.

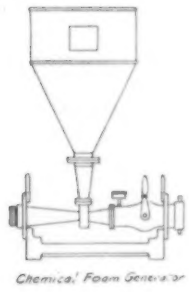


Fig. 30

Fig. 31

Chemical foam is made by coupling a foam "generator" (Fig. 30) into the hose line *two lengths* back from the nozzle, and by dumping special foam powder into the hopper where it is drawn in and mixed with the water to form foam bubbles filled with CO_2. The nozzle tip should be 1¾". Two men are required to man the nozzle, and two to dump in the powder. For large tanks the foam generator is piped up to the foam system so as to deliver directly into the tank which is afire.

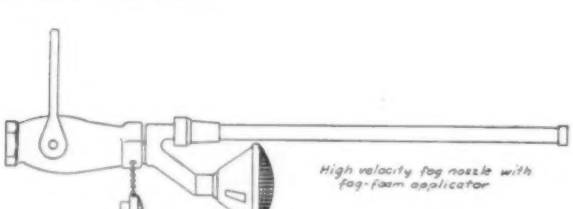


Fig. 32

Mechanical foam is produced by attaching to the end of the fire hose a special ejector type nozzle (Fig. 31) which one man can handle. A two-gallon can of foam liquid is suspended by a shoulder strap, and a tube attached to a small rubber suction hose from the ejector is inserted into the liquid. The flow of water draws in a definite amount of foam liquid and air, and foam bubbles filled with air are discharged by the nozzle.

Foam solution discharged through a special fog nozzle attached to the high-velocity fog nozzle is doubly effective for it combines the advantages of fog and foam. (See Fig. 32.)

There is one important point to remember: no rule prohibits the use of hand extinguishers along with fog nozzles or foam lines, nor the use of several different types of extinguishers on the same fire. For instance, water fog may knock down a large oil fire very quickly, but may have

difficulty in extinguishing a little flicker of flame around the edges of the tank or pit. A "shot" from a Dry Chemical extinguisher will usually complete this job in nothing flat.

Likewise a fog curain will allow a man handling a Dry Chemical extinguisher to get closer to a large fire and to extinguish it more quickly. Also, in a very hot fire, the foam blanket may be evaporated as fast as it is applied, but Dry Chemical can be used to knock down the flame as the foam is applied to prevent re-ignition.

In "stretching" fire hose lines always get the male coupling toward the fire. Otherwise you will have trouble in trying to attach it to the hydrant. And—watch out for kinks in the hose; water doesn't flow very freely through a kinked hose.

(Chapter VII on fire hydrants will appear in the July issue.)

New Electronic "Ear" Versatile Communications Aid

An "electronic ear", deaf to all but a single electronic tone, or combination of tones, was recently described by Charles L. Rouault, General Electric communications expert, speaking before the annual meeting of the Institute of Radio Engineers. The device, Mr. Rouault said, has led to development of a new line of products which add privacy to mobile radio systems, and greatly speed pushbutton remote control operations.

Connected to a special switch, the sensitive listener is capable of turning on and off any kind of electrical apparatus, from radio receivers and transmitters to electric motors, which can in turn perform numerous functions.

The electronic tones, within the range of human hearing, are produced by a small electronic tone generator. They may be broadcast by radio or carried over telephone wires to any number of electronic "ears." They are transmitted in about two-tenths of a second and travel at the speed of light.

The tone generator, which is entirely electronic and has no moving parts, is operated from a pushbutton console, having from one to 40 pushbuttons. These cause tones to be transmitted, with combinations punched out like an adding machine.

Any number of "ears" can be reached from a single console. Each is made to "hear" only one tone, or pair of tones. All others fall on a deaf "ear". The 8 tones used are between 300 and 3000 cycles. Ultimate possibilities are that more than 500,000 "ears" could be reached from one desk-top console having 60 pushbuttons, according to Mr. Rouault.

The G-E engineer outlined several uses currently envisioned for the electronic tones. Three in the mobile radio field are called selective dispatching, duplex dispatching, and selective calling. A fourth lies in the broad field of remote control. Combinations of these

(Continued on page 444)

Fire Service Ladders and Their Use—Part XXV

Bridging With Short and Long Wall Ladders

By ROI B. WOOLLEY

Editor's Note: **Last month's installment concluded the Chapters on the common operation of handling ladders of all types (with the exception of pompier or scaling ladders). Also, included in earlier chapters, were a number of what may be termed "unorthodox" or unusual raises such as the "hotel" and "church" raise. In addition, there have been descriptions of various special uses and applications for ladders of different types.**

However, these previous installments did not exhaust the field of ladder applications and evolutions. And, although a number of these evolutions are not too well known and are seldom attempted, no manual on fire department ladders can be considered complete without their inclusion. As an example we refer to the expedient of "bridging" with ladders.

This Chapter, therefore, attempts to deal with this subject like earlier parts the editors are indebted to The Committee on Firemen's Training, Fire Department Instructors Conference, Richard E. Vernor, Chairman for permission to use the photographs, which are the work of Mr. Rothery of the District of Columbia Fire Department.

AMONG the many uses to which fire department ladders are put, as explained in Chapter IV is that of making a 'bridge'. This operation may be for one of many purposes: to span a gap; to take the place of a missing or weakened stairway; to distribute weight and/or strain over an area, as in effecting rescues on weakened ice. It may be for the purpose of making a walkway or runway safer for use, or it may be to carry hose across a roadway, or railroad.

As has been pointed out, the modern fire department ladder is a versatile, and 'flexible' tool, having more applications and use than the average fireman has any conception of.

Many of these unusual applications are the inspired extemporization of a fire fighter to meet an unexpected emergency. The use of ladders for bridging comes within this scope.

Manifestly it is impossible to chronicle all the actual and possible bridging applications and evolutions withn the limited space at our command. At best, only the more important and more commonly used operations will be attempted here. Enterprising laddermen, however, may find rich reward in further exploring these fringe uses for wall and ground ladders. There is only one important observation that should be made in this connection. It is this: In attempting to use any ladder, of whatever type or make especially for unorthodox operations, the first and greatest commandment is *Play it Safe!* Just as there is a right and wrong way to perform most ladder evolutions, so there is a safe and an unsafe way to do it. Short of a desperate gamble to save life, if the operation to be tried is dangerous, don't do it!

One of the more common applications of bridging is to use a straight wall ladder to span an alley or areaway. This is more often done at the roof level.

After bringing the ladder to the roof, or other position from which the bridging is to be attempted, the ladder is laid flat and the three man crew take positions as shown in Fig. 1. Two men grasp the rails of the ladder (in this case a 24-ft. trussed ladder), while the third man takes hold of the butt, as shown. In the operation illustrated, the flat side of the trussed ladder is placed next to the roof. This makes for easier, safer handling and, when the ladder is finally in position as a bridge it affords

Fig. #1

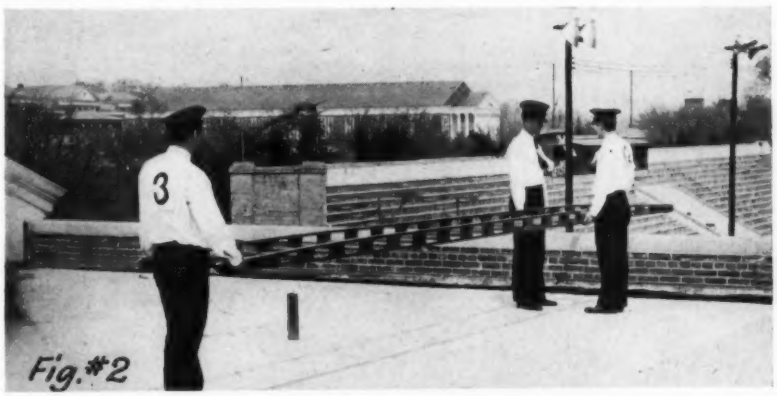


Fig. #2

Fig. #3

Fig. #4

Fig. #5

Fig. #6

Fig. #7

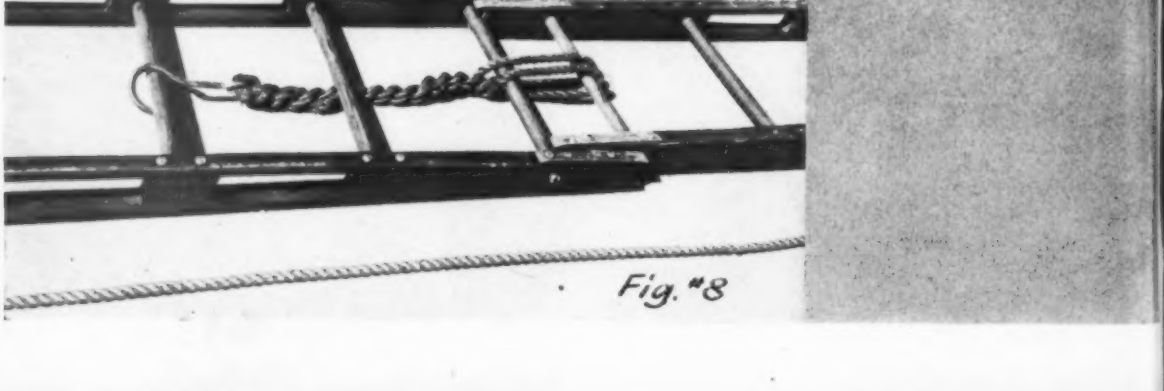


Fig. #8

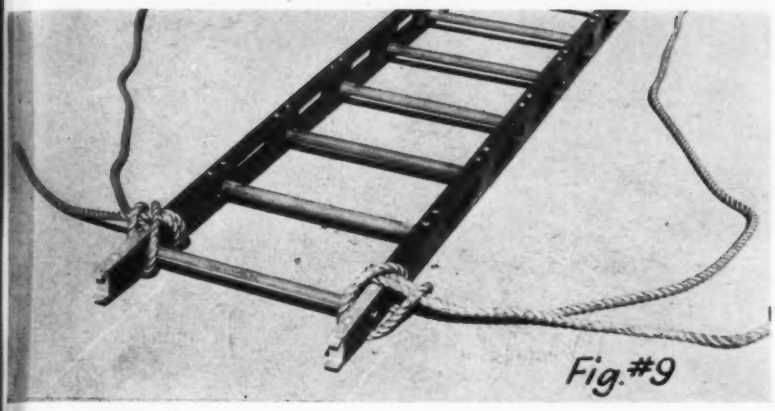


Fig. #9

a better handhold. Also, the trussed rail being upward permits a plank or hose line to be more safely confined between the rails than would be the case where the ladder is bridged with truss down, or under. Finally, it is easier to handle, or slide a ladder on its flat beam than on the curved or truss beam.

Figure No. 2 shows men standing, holding ladder ready to extend it across the areaway. The men at the tip continue to face each other, dividing the weight of the ladder. Theirs is the hard part—to act as the fulcrum as the ladder is advanced, as shown in Fig. 3.

Fig. #10

It will be noted in these first three pictures that the parapet, which is to form one abutment of the "bridge," is low. The operation becomes more difficult as the height of the parapet increases.

In Fig. 3 the ladder has been projected out over the area to be bridged. It is fed through the hands of the two beam men while the heel or butt man moves forward, using his weight as a counterbalance to offset the extended action of the ladder.

Some instructors advocate using the parapet as the fulcrum, wiggling or twisting the ladder forward, with all hands on the butt end. Obviously while this may permit somewhat further reach of the ladder in placing it (a wider bridge), it may damage the ladder.

Once a ladder is in position as a bridge, it should be secured at both ends if at all possible. Furthermore it should never be overloaded while used in this position. Users should crawl across on hands and knees, the hands grasping the rails. If the user is wearing heavy boots and turnout, care must be taken not to catch boots or clothing on rungs. Some departments recommend men getting out of boots, at least, before atempting to cross such a bridge on the theory that it is easier and safer to crawl in stocking feet. The boots can be tossed across the areaway to erally true of all ladder bridging operations.

Where the parapet is higher,, the shoulder bridge may be employed. This is performed about as illustrated. If more than three men are available, naturally it becomes easier, as is generally true of all ladder bridging operations.

Fig. 4 shows men in position to start shoulder bridge. Instead of the two beam men taking position at the lower, or butt end of the ladder, as shown in the previous bridging operation, they here face the heel man, grasping the ladder rail at about the sixth rung, palms forward. The heel man grasps the bottom rung. All men are crouched ready to come erect with the ladder, on command.

On the command, beam men pivot under the ladder, placing the ladder on their shoulders (Fig. 5). Incidentally, in this operation, it considerably simplifies matters if the beam men are about of even height, and of sturdy build. The heel man, after the ladder is placed on the shoulders of his mates, then bears down, to lift the top of the ladder to horizontal position.

The final evolution in the shoulder bridge is for all men to pivot in unison, and swing the ladder around and out, over the areaway as shown in Fig. 6.

Another method of bridging, where the ladder is to reach from the window of a building either into another window, or to the roof of a structure, is illustrated in Fig. 7.

In this evolution the ladder is hoisted, using the prescribed rope and knots, the rope being fastened by a bowline at about the 7th rung of a 24-ft. ladder. The rope can be taken over a roof, or into another window, above that which is to serve, as one anchor for the bridge. The ladder should naturally be raised over the bay of windows from one of which it is to be projected. The ladder is raised with the butt down and in position for men in the window to grasp it, and pull it into the window as it is lowered by the other crew members. As it is lowered by the rope it is directed by the men in the window into position. Once placed, it is secured, and the hoisting rope removed.

Where conditions make it necessary to provide a fulcrum to place wall ladders in position as a bridge, as when the longest straight wall ladders must be employed, two ladders and two ropes are used as shown in Figs. 8 to 15.

The first step is to splice and secure the heels of two wall ladders, as shown in Fig. 8. A good rope tool with hook is shown in the picture. The heel of the shorter ladder should be nested on the bottom rung of the longer ladder and the two held in place by the rope tool, ladder strap or rope. The illustration shows the twist given the rope to take out the slack.

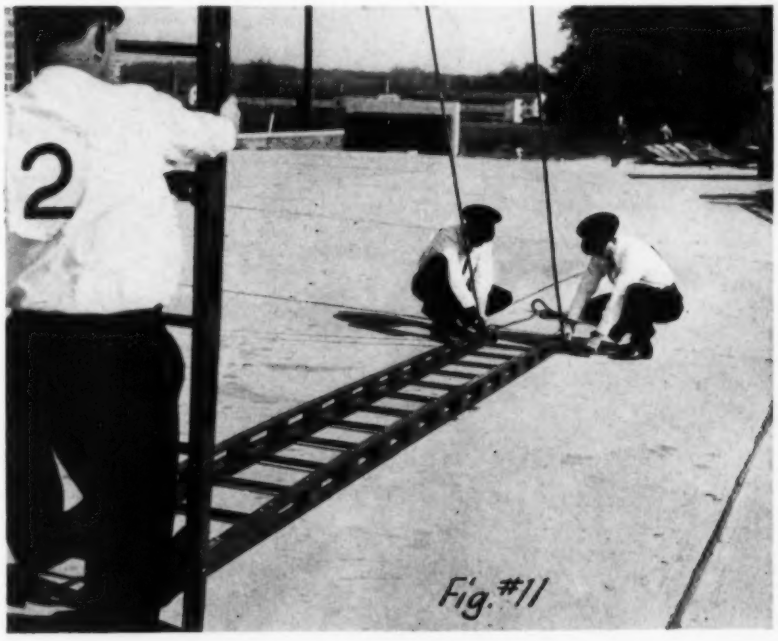


Fig. #11

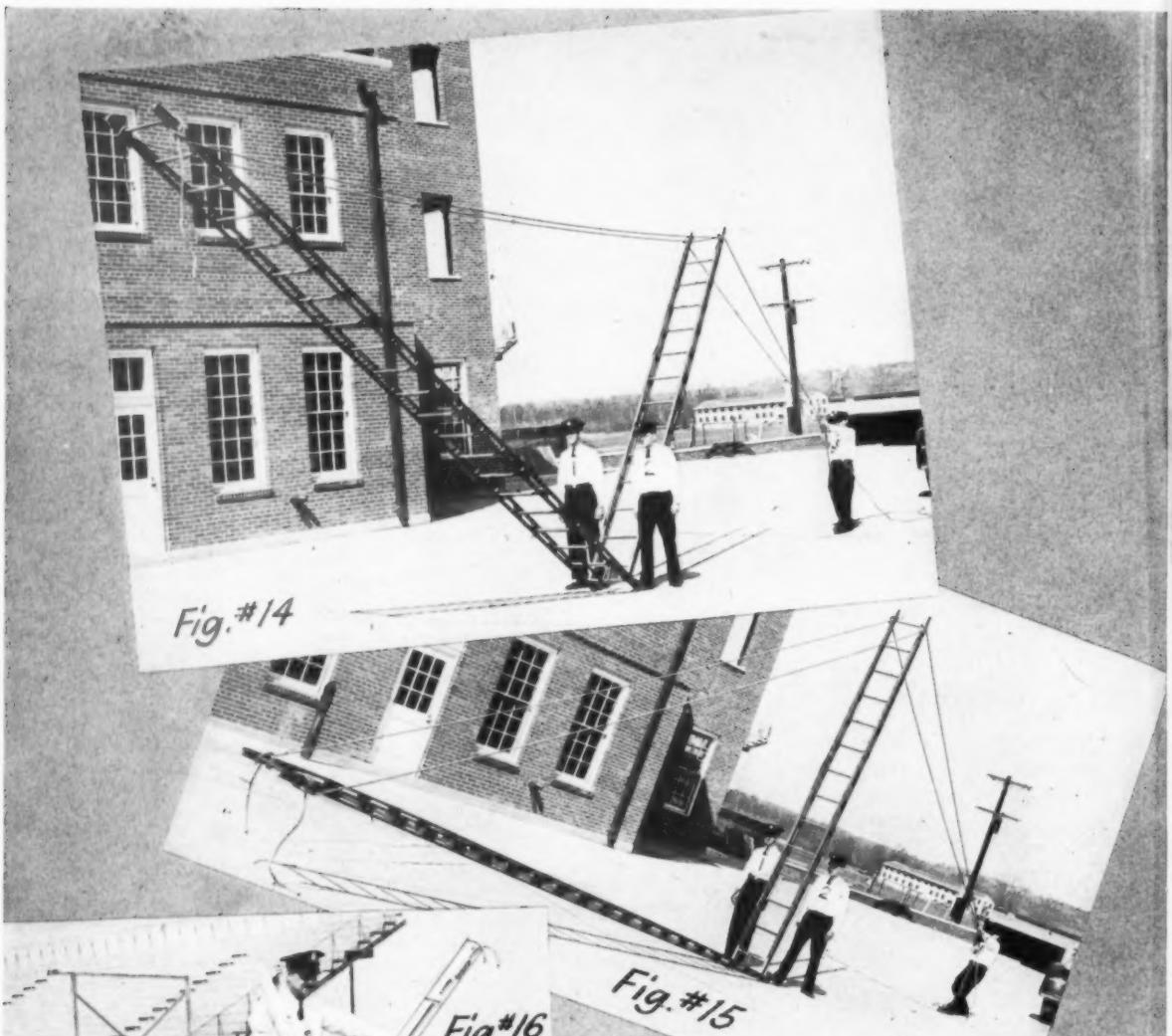


Fig. #14

Fig. #15

Fig. #16

Fig. #17

Two 100 ft. ropes are secured to the top of the beams of the longer ladder as shown in Fig. 9. It is not necessary that the hitch pictured be used, but it is important that the rope be prevented from sliding down the beam or across the rung. This hitch is made by looping the rope about 3 ft. from the end of the rope. The loop is passed through the ladder below the top rung, brought over itself and the loop put over the heels of the ladder and cinched up tight. The ropes are then paid out along the ladder, parallel to it.

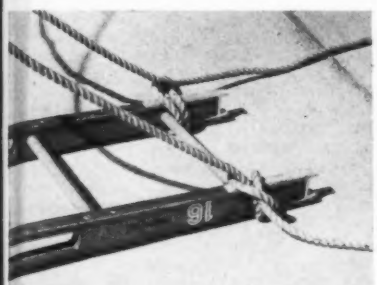


Fig. #12

The longer ladder is then raised to vertical position by standard raise, with an assist by the man pulling on the ropes, as shown in Fig. 10.

With the longer ladder in vertical position, the two ropes are fastened to the ends of the beams of the shorter ladder by means of clove hitches. Figs. 11 and 12.

The bridge is now in position, ready to be lowered over the areaway, etc. It will be noted the ends of the two ropes, after the clove hitches have been secured, are paid out and held by the rope man who controls the lowering of the bridge ladder as shown in Fig. 13. The heel men butt the vertical ladder until time for it to be lowered away. They then take position as shown in Fig. 14, watching the end of the ladder, and being ready to help guide it into position. As it is lowered, the beam men heel the long ladder. If two men can be placed on the ropes, this operation is made easier.

In Fig. 15 the bridge ladder is shown in nearly final position. When it is down, the beam men can support the short ladder, or remove it if desired.

The same principle of bridging, using a fulcrum, may be employed with extension ladders, extended to any desired length. Where the extension ladder is used however, care should be taken to see that ladder locks are secure.

Miscellaneous Bridging

Among the various uses of short ladders, both straight and extension, are several that involve bridging. Two of these are shown in Figs. 16 and 17.

Bridging a fence or wall is frequently a problem for the fire fighter, especially when it may be crowned with sharp wire ends, or glass. Usually, short ladders are available for this purpose and if so, the short extension ladder, and roofing ladder may be used in combination, as shown in Fig. 16.

In this operation, the extension ladder is set first, then the roof ladder. After placing them, the ladders are lashed together with a rope tool, ladder strap or rope, as shown (tieing inside rails).

It sometimes happens that extension ladders may be used as converted step ladders and these, in turn, furnish supports for a bridge to span across an area.

Fig. 17 shows two extension ladders improvised into stepladders. It will be noted that the sections are anchored top and bottom with rope tools, and ladder straps.

Another ladder may be placed across two of such improvised stepladders to bridge an area or to provide a platform for a certain operation. If available, a wood plank can serve as such platform.

Gaining—or Losing?

Despite inflation, a sharp decrease in the average loss per dwelling fire occurred in 1950, according to the Federation of Mutual Fire Insurance Companies. Inflation-sparked dollar losses, however, zoomed to a new high of $188,700,000.

Tabulations developed by the Federation show an average loss per fire of $274 for the year, according to Dale K. Auck, Federation fire prevention engineer. The figure reflects an adjustment factor included to compensate for the decreased value of the dollar.

"This is the lowest since 1942," Auck stated. "The average in 1949 was $406, only slightly below the high of $423 recorded in 1947. And it was accomplished despite a shocking increase in the number of dwelling fires—from 282,000 in 1949 to 387,000 in 1950."

Purpose of the tabulations, Auck said, is to measure the success or failure of fire protection programs carried on by insurance companies, municipalities, and others. They cover the eleven-year period 1940 through 1950.

Similar tabulations were developed by the Federation for both mercantile and manufacturing risk classifications. Average mercantile loss, Auck said, was $1,208 in 1950. The year's 28,800 mercantile fires cost $62,000,000, slightly less than the $66,000,000 registered in 1949 but $19,760,000 higher than the $42,240,000 lost in 1945. In the eleven-year period there were 427,600 mercantile fires for a total loss of $639,240,000.

Average manufacturing risk loss was $2,735 in 1950. The year's 32,000 losses cost $155,750,000, sharply higher than the $133,800,000 loss in 1949 and more than double the loss of $79,200,000 recorded in 1945.

In the eleven-year period there were 332,000 manufacturing risk fires. The total loss was $1,120,450,000.

"The tabulations," Auck said, "clearly indicate that, despite skyrocketing dollar totals, the actual amount of real property destroyed has either remained constant, or has actually decreased." "It further indicates," he adds, "that the nation's fire prevention and protection programs are taking effect." Auck warned, however, against any let-up in fire prevention efforts.

"Losses in 1951," he said, "are up over 1950. Continued effort and pressure from all sources must be maintained if the wasteful destruction of property by fire is to be further controlled."

To Broaden Bill on Flammables

The Senate was asked May 26th by the Federal Trade Commission to broaden a proposed bill against highly flammable clothing, by including draperies, rugs, bedding and toys therein.

The bill has been introduced as a result of the "exploding sweater" incidents.

"Stover Special" for I. A. F. C. Convention

Frank J. Stover, District Manager of The Gamewell Company, has announced a "Stover Special" train from Chicago and neighboring territory to the coming convention of the International Association of Fire Chiefs at Boston, Mass.

Mr. Stover, whose address is 201 North Wells Street, Chicago 6, Ill., is already at work preparing an itinerary, and expects to have all details straightened out within a week or two.

It is possible that the west coast delegates will team up with Stover's group to make the special trip a most outstanding one.

Fig. #13

DEMAND FOR F.C.D.A. EQUIPMENT EXCEEDS ALLOCATED FUNDS

Federal-State Share-Purchase Program in Full Swing, but Aid is Needed of Congress

A Special Report

Editor's Note: **About the time this issue of FIRE ENGINEERING is in the mails, the Congress of the United States will be debating the 1952 civil defense budget requested by the Federal Government, an item of $600 million.**

In his letter of transmittal with the First Annual Report of the Federal Civil Defense Administration, President Harry S. Truman strongly stressed the urgency of the nation's civil defense program.

Last month, also, the conference of Mayors unanimously urged an adequate civil defense program. Governors, mayors and city officials generally, who are alive to the threat that hangs over this nation, have likewise advocated that stronger civil defense measures be taken by the Federal government. That sentiment is reflected also throughout the nation's fire service, particularly in the target areas.

It would seem that with all this weight of opinion the nation's lawmakers who, as is pointed out in the editorial in this issue, must accept the responsibility for the nation's safety and welfare, would be willing to appropriate the necessary funds for adequate national civil defense. But this is an election year and the whole issue of defense within our own shores will quite likely be clouded by politics, with the likely result that vitally needed financial support for civil defense will never be authorized.

If fire chiefs and other municipal officials desire to overcome this Congressional prospect, it will be necessary for them to correspond directly with their congressmen. Meanwhile, the editors hope the following brief report will bring them up-to-date on at least one phase of civil defense, — protection against fire.

To date (June, 1952), states and cities together have appropriated $183 million for civil defense. In 1951 President Truman requested of the Congress the sum of $535 million for civil defense for the fiscal year 1952. Congress cut this to $75 million.

The civil defense funds requested for the fire fighting program in the 1951 budget were reported to be $33,700,000. The sum finally allocated was $2,250,000. About the same ratio of allocations to requests were suffered by the attack warning, communications and radio divisions of the Federal Civil Defense Adminstration.

The sum of $7,750,000 was appropriated by the Congress on Nov. 2, 1951, for total Federal contributions for the combined fire, warning, communications and rescue programs.

In the two months since receipt of these funds, FCDA has advised each state of the amount of funds apportioned to it for each of the four programs. States have also been advised of the steps to take in order to request Federal Funds thus allocated.

Under public law passed by the 81st Congress, the FCDA is authorized to make contributions of Federal funds to the states for one half the cost of equipment to be used by civil defense organizations.

A time limit was set at which all requests for fire fighting and other civil defense equipment to be purchased on a share-basis must be filed with the proper civil defense authorities. Although this deadline has passed, and requests for equipment greatly exceed the funds appropriated for such material, it is announced that the FCDA is still accepting requests for certain equipment in anticipation of funds possibly being made available later for continuance of the share-purchase program. Hope was expressed in some quarters that to the Fire Services Division of FCDA might be transferred unexpended or unallocated funds from some other branch of the Federal agency. Fire officials who are interested in possible procurement of apparatus and/or equipment coming within the jurisdiction of the fire, communications, warning and rescue divisions, might well check this detail with their respective civil defense authorities.

Fire Services Division

In brief, the main objectives of the Fire Services Division of the Federal Civil Defense Administration, are to provide leadership and assistance to State and local Governments in developing, through organization, planning and coordination of training, a complete fire service capable of minimizing the effects of wartime fires.

This is to be accomplished by: (a) assisting the States in developing the best methods of recruiting and training of auxiliary firemen and maintaining their interest in the Civil Defense Fire Services program so that they will become readily acceptable to established fire departments. This will enable a fire department to maintain the utmost in personnel efficiency and utilize all types of available fire fighting equipment; (b) initiating studies and surveys to determine the extent to which civil defense equipment should be standardized and detect and correct operational deficiencies in order to attain the highest possible degree of interchangeability of fire fighting equipment and manpower through effective mutual aid and mobile support system during both pre- and post-attack periods; and (c) participating in research in the development of methods and material to reduce fire effects of weapons of war.

As has been pointed out, of the 7¾ million appropriated for all types of organizational civil defense equipment, including fire, communications, warning and rescue, the Fire Services Division received only $2¼ million for the procurement of fire equipment, and this to be matched by an equal amount.

This $2¼ million was allocated to the 30 states which, according to FCDA, have critical target areas. Allocations for funds for fire equipment were based on the ratio which the total population of the critical target areas in each of the states bears to the total population of the critical target areas of all the states.

Although the FCDA reports to FIRE ENGINEERING that there have been no changes in the basic plans or programs under which fire apparatus may be purchased on a matching funds basis, it is possible that many readers of this Journal may not be familiar with the more important details.

If a municipality is desirous of purchasing apparatus (and kindred equipment) for civil defense purposes, the authorized local officials contact the State Civil Defense Director to make the necessary arrangements for the State's share of the cost. This can be done through the local and/or County Civil Defense Director if there is such. If the necessary arrangements can be made between the State and the municipality, and if the municipality's civil defense plan can be integerated into the over-all State civil defense plan, the State Civil Defense Director will make application to FCDA for the equipment. This equipment may be procured either by FCDA or by the State, or the State may delegate authority to local officials to procure the equipment, as is discussed in more detail later on.

After such equipment is accepted by the State, or municipality, the title to the equipment goes to the State. The State may transfer title to the local level. However, FCDA will, in any event, hold the State responsible for the proper maintenance of the equipment.

Acquiring Equipment

The conditions under which equipment may be acquired are that: (a) the pumper unit, with basic equipment and hose, as covered by FCDA specifications, must be maintained in effective operating condition, as a complete unit ready for emergency dispatch at all times; (b) 1,000 ft. of 2½ in. hose and 200 ft. of 1½ in. hose (standard specifications) must be maintained on the apparatus and a like amount kept in reserve. All hose must be maintained in accordance with accepted local fire department standards; (c) the apparatus is to be used to combat emergencies caused by an attack, or for the training of personnel to be utilized in the event of an attack; (d) normally, the apparatus will not be used for non-civil defense purposes except to combat multiple alarm fires, or to prevent the destruction of military or defense properties; and (e) only adequately trained personnel will be permitted to serve as motor and pump operators. FCDA also requests the name of the political subdivision in which the apparatus is to be located, the number of auxiliaries to be trained, etc.

FCDA is using the performance type specifications for motorized fire apparatus. These specifications follow the general line of the International Association of Fire Chiefs and the National Fire Protection Association specfications for 750 GPM "Class A" apparatus. If a municipality or State is desirous of acquiring pumpers with greater capacities than the 750, Class A, the difference in cost must be borne entirely by such States or municipalities. FCDA has, in

few cases, approved requests for 500 GPM, Class A, apparatus and a few 1,000 GPM Quads and Quints. It will also approve floodlight generators, portable pumps, and other standard types of essential fire equipment and to bring existing fire apparatus to complete operating efficiency.

The Federal Civil Defense Administration also has a Warning and Communications program under which sirens and field telephones (also radio facilities) may be procured on a matching basis. The minimum rating under FCDA specifications for sirens is 98 decibels. FCDA will not make reimbursements on recurring costs or for maintenance.

Is is also pointed out that the standard fire apparatus delivered under the matching fund basis does not include warning sirens or lights. If a State or locality desires a larger booster tank, it must pay the difference in cost. The Fire Services Advisory Committee, which prepared the standard specifications for the FCDA pumpers and equipment, recommends that 1½-in. CRL double jacketed hose be used instead of chemical, or booster hose and reel.

Specifications for all items for the fire, communications, warning and rescue services are contained in the FCDA Advisory Bulletins, available through FCDA. The more important of these, of interest to the fire service are:

Advisory Bulletin 38, and Supplements 1 to 8 "Program and Procedures for Procurement of Organizational Equipment."

As has been said, where Federal procurement is involved (through FCDA agencies) only established manufacturers of motorized equipment will supply FCDA pumpers, fire hose, etc. Some cities have, under the State Civil Defense Plans, placed orders for pumpers. Promised deliveries for these apparatus are reported at eight months from the date the city placed the order. New York City, for example, has procured 30 pumpers on this basis.

Where Federal procurement is involved, FCDA proposes to request materials in a lump sum from the National Production Authority and have such materials allocated directly to the successful bidder on the FCDA apparatus. In this manner the apparatus manufacturer securing the order will have a priority and be able to acquire the necessary materials to complete the order.

The municipality desiring to secure apparatus on this basis is required to fill out two forms, which must be submitted to the State Director of Civil Defense, as already stated. This application for assistance is then passed to the Regional Civil Defense Director who certifies the eligibility and forwards the request to Washington for approval. Federal Civil Defense Advisory Bulletin 68 explains these requirements fully.

The city or department requesting the assistance of FCDA in the purchase of such equipment must fill out FCDA Form 103, which is also Bureau of Budget Form 97-R-001. This is known as "Organizational Equipment Request."

In the case of fire apparatus, Form 191 (Budget Bureau Form No. 97-5111) covering fire fighting equipment, is to be submitted with Form 103. If the equipment to be purchased is other than that covered by FCDA specifications on a 750 GPM pumper, as previously described, the city is to submit specifications for the equipment to be purchased along with the request for approval.

There are three other forms which cover most of the other requirements of interest to the fire service. It is understood that Form 103, or in certain cases Form 103A, is to be accompanied by one or the following three special forms:

FCDA Form 175 Covering Warning Systems.

FCDA Form 176 Covering Radio Communications.

FCDA Form 192 Covering Rescue Tools and Equipment.

The FCDA has established a definite figure of $6,755 which it will allow towards the purchase of fire apparatus. The agency has set up an estimated figure as the cost of a 750 GPM pumper which it might purchase under FCDA specifications as $13,510.00. One-half of this amount will then be given to any approved city for the purchase of any pumper of 750 GPM capacity or more. As previously stated, this would include a quad or quint. FCDA also advise *Fire Engineering* that other units of apparatus, such as tanker-pumpers, may come within the limitations, providing they have the required pump and other specified equipment. The only proviso is that in this case the FCDA will not appropriate beyond the previously mentioned figure.

At least one apparatus manufacturer reports having received several contracts on the basis described in the foregoing, and more are in process.

According to figures released to *Fire Engineering*, 23 States in which there are critical target areas have *requested* (May 23, 1952) $3,088,361 worth of fire equipment of FCDA. At that time the Fire Services Division had approved $2,027,455. Seven states had not claimed their share.

It is further reported that as of this May, on the Federal level FCDA had not as yet placed an order for any fire equipment, and it is likely no orders will be placed before June 10, or 15th, 1952. Further, it is reported "a considerable number of requests are being approved under the State procurement plan already described.

The FCDA further reports that a quick run-down of its records as of May 23, indicates the agency has already approved 246 pumpers for the States, and it is still being deluged with requests.

Figures on the number and amounts of rescue units, and other kindred equipment in which the fire service is interested, and which has been allocated, or approved for procurement, are not presently available. At least two pilot rescue trucks have been built and are being used for rescue training and education. One manufacturer of automobile vehicles reports that he has received an initial order of 55 specially equipped Civil Defense Rescue Service Trucks at a contract price of $5,737.98 each and the price includes an optional winch but does not include the cost of the 99 separate items of tools and special equipment which are to be furnished by the Government, but installed by the truck manufacturer. Delivery reportedly will be made within the third quarter of 1952.

Bucks County Squad Uses Walkie-Talkies

The Bucks County (Pa.) Rescue Squad has three ambulances equipped with short wave radio, capable of transmitting and receiving messages 30 miles from its base, and two walkie-talkie sets with a range of three miles. All radio is on the same frequency. The Squad's radio license will cover up to 50 mobile units.

A "tall story" about the long and the short of Florida's Fire Service.

Gibsonton, Fla., may not have the biggest fire department, even in Florida, but it surely has the tallest fire chief. He is Chief Al Tomaini, who is shown here looking down on "Shorty" Chief Henry Chase, of Miami, who isn't so short, after all. Statistically, this human Empire State Building of the fire service measures 8 feet 4½ inches in height; he weighs 356 pounds, and wears a size 22 shoe—when he can get them. Incidentally he is one of the best customers a certain maker of firemen's turnouts ever hoped to have! Or—are his clothes made by Omar the Tent Maker? P.S.—The antique "fire chief's wagon" may be his chariot, but we doubt it.

Tottori Japan Nearly Destroyed

Over 4,000 houses in the city of Tottori, Japan, were destroyed by Japan's biggest fire since the war, which started at 3:00 P.M. on Thursday, April 17th, last. Fanned by a strong wind (19 to 29 M.P.H.) fire whipped through the tinderlike dwellings despite the efforts of all local and other fire fighters. At 11:30 P.M., the fire was still spreading and over one-third of the city had been wiped out. Of the 12,000 houses in the city, 5,288 were burned.

Sufferers from the fire were estimated at 20,000. Over 130 persons were injured by the blaze, many of them seriously. Wire communications with Osaka and other areas went out, but emergency lines between the city and Hiroshima were used to call for aid. The National Police Force sent 300 men; the National Rural Police another 70 men to assist.

The fire was the fourth conflagration for Tottori. The three other big fires occurred in 1882, 1927 and 1943.

The fire was said to have been caused by a short circuit in a vacant house next to the Dogen Public Bath House, operated by the municipality. In addition to the latter, many leading buildings in the city were consumed by the flames, including 14 government structures, the Tottori Central Hospital, the Tottori Bank, the Sanin-Godo Bank, the Labor Relations Standard Bureau and the National Rural Police Headquarters.

Tottori has a population of about 61,000.

Three other fires occurred in Toyama, Hyogo and Nagano the same day. In Toyama Prefecture over 60 houses were destroyed in a fire which broke out in the town of Ikeji at 5:10 P.M. The origin is being investigated. Another fire destroyed 62 houses in the Village of Mikawa, Hyogo Prefecture, and 2[illegible] houses were burned in the village of Hoyei, Nagano Prefecture, when a fire started in a farmer's house. One fire fighter was killed in this blaze.

TOSHINAGA KAWATO
Chief of Secretariat,
Tokyo Metropolitan Fire Department

The devastating fire that razed most of the center of Tottori which raged uncontested for more than 12 hours. It was the biggest postwar fire in Japan and destroyed over 5,000 homes.

Reminiscent of the atomic destruction of Hiroshima and Nagasaki is this picture of the fire-wrecked area of Tottori, Japan. Fire razed 5,500 homes, left over one-third its people homeless, and caused damage estimated at 13 billion yen. Over 130 persons were injured, one fatally.

Many Lives Saved by Timely Warning

Realizing that a deadly explosive would wreck the Louis De Jonge Paper Company's plant in a matter of seconds, Frederick K. Jacques, plant foreman, defied death, on April 30, at Fitchburg, Mass., when he ran through the sprawling building with a life-saving warning to his men in time to let them escape.

All 50 night shift employes escaped, and only one was injured in the $850,000 blast. Windows for hundreds of yards around the paper plant were shattered and the explosion was heard five miles away. The explosion wrecked the two-story brick structure, and an adjoining storage shed and buckled the walls of the Fitchburg Engineering Company building across the street.

Foreman Jacques said he was going up in the plant elevator when he saw a vat of aluminum paste smoking in the mixing room. He called out a warning but no one heard him, he said. Then he pulled a master switch, shutting off all machinery in the plant, and ran through the 400-foot building telling the workers to get out because the plant was about to explode. Lieut. Thomas J. Burke, of the State Fire Marshal's office, said hydrogen fumes from the vat may have been ignited by sparks rfom an electric overhead motor.

TOM MAGNER

Cure for Flammable Sweater Evil

Among the commendations received by the editors of FIRE ENGINEERING, for the documentary report on flammable sweaters and other garments published in the February issue, is one from Wm. Paul Babcock, Inspector in Charge, Fire Prevention Department, Village of Nyack, N. Y., which contains an idea worth passing along to our readers.

At the time of the flare-up over flammable cowboy suits and other garments several years ago, Nyack fire inspectors encountered some disinclination on the part of merchants to dispose of the dangerous stocks. In the absence of any ordinances specifically restricting such materials, there appeared little that the inspectors could do about it.

The solution, at least so far as Nyack was concerned, was found by merely informing the merchants that the fire prevention authorities would make an official record of the presence of the hazardous material, and would publicly announce that, in the event of any person being injured by such garments, the inspection bureau would be available as a technical witness in any action to recover damages, as the courts had held that one may not maintain any public hazard with impunity, even in the absence of controlling ordinances.

That did the trick, according to Inspector Babcock.

STANDARDIZED TRAINING THE AIM IN NEW YORK STATE PROGRAM

State's 100 Fire Instructors Put in Strenuous Week at Fire Bureau's Fourth Annual Trainers' Conference

FOUR years ago the State Division of Safety, New York, was established and consolidated with the Bureau of Fire. The latter was given two responsibilities: to direct statewide training of New York's more than 139,000 firemen and to institute statewide mutual aid between all fire forces of the state.

Today, New York is said to lead all other states in the number of firemen trained annually, and in the broad application of mutual aid, according to information released at the Fourth Annual Instructor's Conference of the Bureau of Fire, held in Elmira, May 4-9 inclusive.

Since the inauguration of the state training program, approximately 40,000 volunteer firemen have received training. A total of 13,039 firemen, or twelve per cent of the nation's firemen who received instruction during 1951, were awarded certificates. Members of volunteer departments representing every county in the state are presently undergoing training in one or the other of the three gradings, basic, intermediate or advanced.

While this is interesting, it is by no means the main story. What is of more importance, according to B. Richter Townsend, Chief of the Bureau of Fire Mobilization and Control, is the fact that starting from scratch, a complete, coordinated and comprehensive training program and procedure has been devised and established in the state. This has necessitated the selection and training of capable instructors and providing them the wherewithall to work with in the form of money and facilities.

It is generally conceded by those who have reviewed the state's latest training material, that the lesson plans, student work books and training guides supplied New York's instructors, surpass anything extant. In addition to the lesson outlines and work books, instructors are completely equipped with projectors, slide films and motion pictures for visual training. All instructors are paid by the state and are assisted by a corps of Bureau of Fire Field representatives who also function in statewide mutual aid planning and operations. These men are: Frank J. Crowley, Elmira; Donald M. O'Brien, Auburn; George V. Blackstone, Lakewood; John Danahay, Buffalo; Henry Drake, Clinton Corners; Roswell Pooler, Watertown and Timothy G. Stillman, Cornwall-on-Hudson.

During the past three years, these men have traveled more than 200,000 miles a year in their visits to the state's fifty-seven counties, 1,534 fire departments and 3,300 fire companies, representing New York's firemen.

An early objective of the Bureau was to standardize the existing crazyquilt pattern of firemanship training throughout the state. Not only would such standardization further the training of firemen, but it would greatly facilitate mutual aid operations and promote the state's mutual assistance undertaking.

This has taken time and patience. Standardization had to start with the instructors themselves, all of whom are, or have been, firemen, many of them chief officers of paid and volunteer departments. To some, it meant discarding precedent. But as was evidenced at the Fourth Annual Conference, there is now an agreement on methods and procedures, the latter representing the best thinking of the nation's foremost instructors and teachers in firemanship.

The purpose of the annual instructors conferences has been: to achieve unification of training methods through study, trial and experiment, utilizing the best recognized methods and techniques, both in fire control operations and in teaching these operations.

New York State instructors and Bureau field men in front of the headquarters hotel, Elmira, N. Y., May 4-9, 1952.

The Fourth Annual Conference at Elmira, N. Y., was no whit different. The instructors were given a strenuous program. Starting Sunday, with registration, every enrollee had to attend morning and night sessions, beginning at 8:30 a.m. and concluding at 10:00 p.m., with only time off for meals and short intermissions. Time was given equally to classroom and field study.

The arduous work week was broken only by the banquet, held Wednesday, May 17 at the Mark Twain Hotel. The speaker at this dinner was the Rev. J. Benjamin Myers, of Fishkill, Chaplain of the Hudson Valley Firemen's Association and the Dutchess County Fire Chiefs' Association. Present at the banquet, and throughout the week were, in addition to B. Richter Townsend, Chief of the Bureau, Thomas Ryan, Director, Palmer Harcourt, Deputy Director, State Division of Safety; Chief Irving Wallach, President, Firemen's Association of the State of New York; Irving Merrick, President, New York State Association of Fire Chiefs; Warren Y. Kimball, Editor "Fireman"; Hugh Walker, Manager, M. F. A. Engineering, American LaFrance-Foamite Corp., and Everett L. Decker, Ward LaFrance Truck Corp. Both American LaFrance-Foamite Corp., Elmira plants were used for the training of pump operators and maintenance men. Also present were, Arthur Myers, Engineer of the Atlas Safety Equipment Co., who instructed in life net operations; Fire Chief Louis Mosher, host chief, of Elmira was aided by Wilbur Green. Chemung County Fire

(Continued on page 463)

Some top brass at New York State Instructors' Conference. Left to right, former New York City Chief John McCarthy, now Fire Consultant, New York State Hotel Association; Howard M. Travis, National Board of Fire Underwriters; B. Richter Townsend, Chief, Bureau of Fire; Thomas W. Ryan, Director, Division of Safety, and Palmer Harcourt, Deputy Director, Division of Safety.

Detroit Firemen Fight Dense Cyanide Fumes

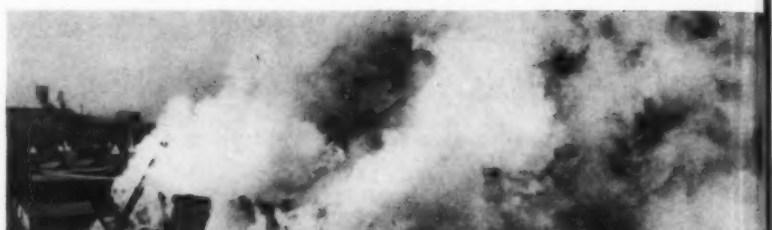
Detroit, Mich., fire fighters encountered several handicaps last March in their struggle to control a five-alarm fire in a brick warehouse owned by Lambert & Lowman Chemicals, Inc., wholesale druggists, at 1212 Twelfth street. The first was the acrid cyanide fumes given on by the storages of drugs; the second was the strong north wind which blew smoke over a wide area and fanned the fire.

The building, of brick joist construction, 2½ stories in height, contained about 50 employees, most of them women, at the time the fire started shortly after 3:00 P.M. Just what caused the stubborn blaze was not immediately determined. Whatever its origin, however, it spread rapidly throughout the structure, which contained about 20,000 sq. ft. of floor space.

All of the employees fled the scene in a hurry as the fire spread. First arriving firemen sent in additional calls for aid in rapid succession, bringing some 30 pieces of equipment and a large force of men into action. Owing to the nature of the contents of the building, practically all fire fighting had to be done from the outside.

Before the two-hour fight was won by the large complement of fire fighters, many heavy streams from deck guns, ladder pipes and hand lines were operated. At times it was almost impossible for the men to hold positions on the leeward side of the burning building because of the 35-mile wind.

The interior of the warehouse was gutted, but the brick walls remained intact. Fire Marshal Edward Hall said the building contained over $400,000 worth of drug stocks, all a total loss. The building loss was estimated at $100,000. An interesting feature of the fire was the televising of fire control action. Television station WWJ's TV truck was right on the scene, and firemen in Detroit's fire stations not engaged in the operation had opportunity to watch their mates fight the battle.



In the foreground, television cameras on a WWJ-TV truck take in the panorama of smoke, fire and destruction as a half-million dollar blaze sweeps through a downtown chemical warehouse in Detroit, on March 24.

Seven Fire Departments Join in Fight on Inn Fire

Waverly Inn, at Cheshire, Conn., one of the best known eating places in Connecticut, was destroyed by fire of undetermined origin on Feb. 11. Fire Chief Warren E. Hall estimated the loss at more than $100,000.

Driven by strong wind, flames raced so quickly through the sprawling story-and-a-half structure that Cheshire volunteer firemen and those from six neighboring communities had no chance to save it. They devoted their efforts to preventing spread to nearby buildings.

Several firemen were overcome by dense clouds of smoke hanging over the doomed landmark and one, John Mayo, of the Southington Fire Department, was taken to St. Mary's Hospital in Waterbury with injuries.

The felled firemen were revived by oxygen equipment, rushed to the scene in a State Police Department ambulance.

The blaze was discovered shortly after 11:30 P.M., when employes of the inn saw smoke pouring from a ventilator in the rear of the building. The Cheshire Volunteer Fire Company answered an alarm but found the entire building ablaze, Chief Hall said.

Chief Hall said that with the exception of the blaze that destroyed most of the Cheshire Academy some years ago, the Waverly Inn fire was the largest and most costly in Cheshire's history.

TOM MAGNER

Ruins of flame-swept Waverly Inn, widely known eating place at Cheshire, Conn. Firemen of seven communities joined in a battle on February 11 to save the sprawling wooden structure, but heavy winds thwarted their efforts. Damage to structure was estimated at more than $100,000.

New Code to Facilitate Parking Garages

Amendments to the National Building Code have been punblished which may pave the way for more open air parking garages, according to Lewis A. Vinceht, General Manager of the National Board of Fire Underwriters. The Code will now allow such garages to be built of material more economically than the type of fire resistive construction formerly required under the 1949 Code.

The new construction types have been recognized because parking garages have had a favorable fire record and the open sides of open air parking garages make it easy for firemen to get at the fire. The open sides also allow gases and smoke to escape from the building. Open air parking garages are seen as one remedy to traffic congestion in downtown areas in American cities.

County Firemen Organize

Mecklenburg County, N. C., of which Charlotte is the county-seat, or capital city, has eight volunteer fire departments. They now have well-established boundaries to guide them in solicitation campaigns and similar activities. The boundaries agreed upon, however, do not restrict in fire fighting service. Each volunteer fire department is subject to call 24 hours a day to any section of Mecklenburg County, and it is a big county. The agreement was reached Tuesday night, March 18th.

Hugo Heidenreich, secretary of Mecklenburg County's Volunteer Fire Board, reporting on the meeting, said that chiefs and leading members of all volunteer fire-fighting units of the county were present, as was also County Police Chief Stanhope Lineberry. The average manpower at each of the units is forty men.

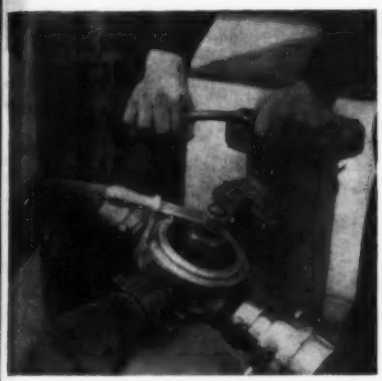
—D. G. SPENCER

Short Cuts and Gadgets

"FOUR-WAY" HYDRANT CONNECTION

Many years ago the New York Fire Department introduced what was known as a "four-way" hydrant connection. It was also termed by some the "New York Valve."

This device, which was adopted by a number of other municipal fire departments, is described and pictured in the Fire Chiefs Handbook as follows:



Four-way valve attached to hydrant.

Four-way Hydrant Connection: The object of this appliance is to provide a means for changing from a direct hydrant stream to an engine stream without shutting off the flow of water. The figure (accompanying diagram) illustrates how the appliance operates. It is attached to a hydrant between the hydrant line and the hydrant and the valve placed in a position as shown by the heavy black and shaded line. This line represents the valve so turned as to permit the hydrant to deliver water directly to the hose line. When an engine arrives and additional pressure is wanted at the nozzle, the men attach engine suction hose to the side so marked in the sketch and the discharge line from the pumper is attached to the other connection as indicated. When these connections are completed, the valve is swung 90 degrees to the right as indicated by the dotted line. In this position water flows from the hydrant through the connection, the suction, through the pumper, through the discharge hose and into the connection again, passing through the lower right hand passageway to the line which was originally fed by the hydrant. As usually employed, ordinary suction hose is used from the male outlet of connection to pump, and an 8 foot section of hose from the pump to the female inlet of the connection. This valve is usually made of aluminum or brass.

We are prompted to reprint the above largely by an inquiry from a reader in Richmond, Va., who writes: "I am working on a method of increasing the speed and effectiveness with which pump pressure can be used at a fire. At present our first due engine companies hook up directly to the plug, and their pumps are not used until either second-alarm units get their lines into operation or until it is feasible to interrupt water supply to the fire long enough to disconnect the 2½ in. lines from the plugs and attach them to the engines.

I understand there is manufactured a 4-way valve to be permanently attached to the male end of the hose section dropped at the plug. As soon as the line is left at the hydrant, the valve would be attached to the plug and the gate thrown so that as soon as the hydrant is opened water would flow direct to the fire at plug pressure only. As soon as the engine was ready to pump, after a soft-section had been run from the valve to the engine intake and a 2½ in. line taken from the outlet of the engine to the valve, the position of the gate would be reversed. This would change the water flow from hydrant through the fire engine and then through hose line to fire. Thus the only break in water supply to the nozzle would be the fraction of a second required to reverse the gate position. Engine pressure would then be available far earlier in the fight to control a fire.

* * *

PITOT GAUGE

How many volunteer fire departments have a pitot gauge? How many that have it know how to use it?

A recent survey by a staff member of this journal indicates that a surprising number of fire departments do not possess such an essential tool and that a large number of fire officers and pump operators know little or nothing about its use and application.

The Old Timer Says—

The best textbooks tell us to always back up a light line with a heavier one. But a lot of officers don't seem to follow this practice. I can understand their reasons: shortage of men; dislike of the extra labor of stretching, picking-up and stowing lines that may be entailed, and so on. But these can never serve as excuses for the fire that gets away because of failure to have the stand-by line really standin' by.

Not long ago, failure to back up a booster line with a heavier line resulted in a costly fire that ultimately required the services of many companies. The officer initially in charge excused the failure to support the inadequate first attack with the statement that there was no indication of any serious fire inside the building and "I thought we wouldn't need anything more than the booster any way."

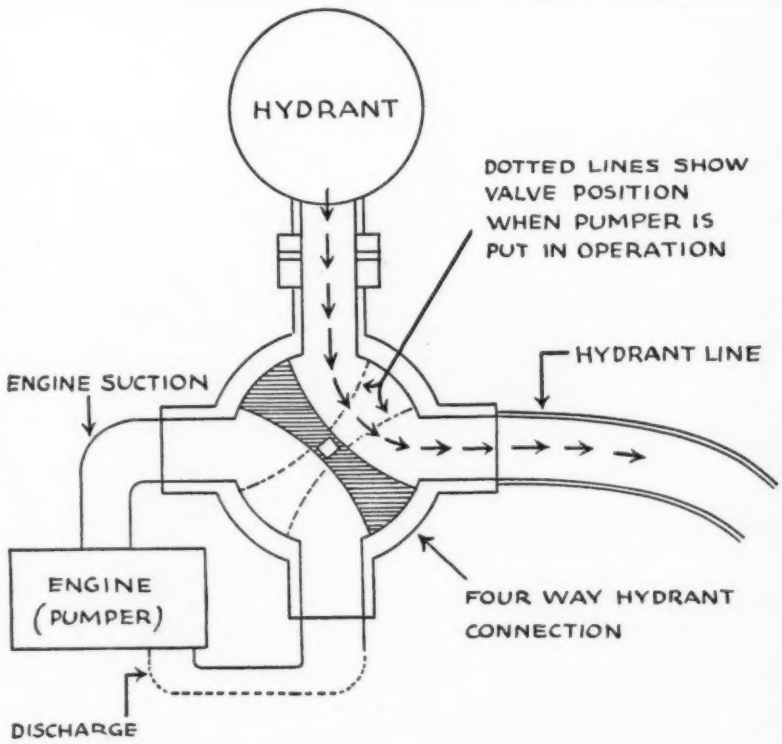
What's that old sayin'?—"you can always find reasons for calling for help that wasn't needed, *but you can never find reasons for* not *calling for help when it* is *needed."*

April Fire Losses

Estimated fire losses in the United States during April were $67,380,000, it was announced by Lewis A. Vincent, general manager of the National Board of Fire Underwriters.

This is an increase of 7 per cent over losses of $62,965,000 reported for April, 1951, and a decrease of 6.7 per cent from losses of $72,254,000 for March, 1952.

Losses for the first four months of 1952 now total $283,714,000, an increase of 4.1 per cent over losses for the first four months of 1951 which totaled $272,294,000. These estimated losses under fire insurance policies include an allowance for uninsured and unreported losses.



FALSE ALARMS

"You boys almost finished? My arms are getting tired!"

Judge: So your names Joshua, eh? You're not Joshua that made the sun stand still, are you?

Culprit: Lor' no, Judge, Ah'm de Joshua that made the moonshine.

A delightfully demure young miss was engaged by a manufacturer to distribute little boxes of a new kind of candy free to passersby. At the close of her first day's work she ran into an old friend, who asked,

"Is it true you're going to be married soon?"

"Next month," was the answer.

"That's wonderful," said the friend. "What are you doing in the meantime?"

"Nothing much," admitted the miss. "Just giving away free samples."

Jimmy: "Mama, Papa wouldn't murder anybody would he?"

Mother: "Gracious, no! What makes you ask that?"

Jimmy: "Well, I heard him down in the basement saying, "Let's kill the other two, George.'"

The first Adam-splitting gave us Eve, a force which man in all the ages has never gotten under control.

Passage Canceled

Once upon a time there was a spy who was ordered to proceed to a railroad station inside the enemy lines and given these instructions:

"Their whole division is going to attempt escape by rail tonight. It's your job to see that they don't get away with it. Blast bridges if necessary; do anything to block that line."

The spy departed but was back again in less than two hours.

"What are you doing back here?" thundered his superior officer. "I told you to keep the enemy from escaping by train."

"I've got them completely stymied," boasted the spy. "I sneaked into the station and tore up every ticket."

Backfired

Our friend Sam, the clothing merchant, recently found himself stuck with 49 overcoats he could not sell. He explained his predicament to a business acquaintance.

"I have already marked the coats down fifty per cent," he said, "and still they will not sell. What can I do?"

"I'll tell you," said the other. "Get the names of seven country store owners. Send seven overcoats to each, but send them an invoice for six only. They will think it is a mistake and take advantage of it."

Sam followed the suggestion. But a week later he rushed into his friend's store in a great rage.

"Fine advice you're giving me!" he shouted. "Each one to whom I sent the seven coats, returned the six listed in the invoice and kept the extra one!"

Literal

It is alleged that a literal minded printer received an order over the telephone ordering a ribbon for a funeral wreath.

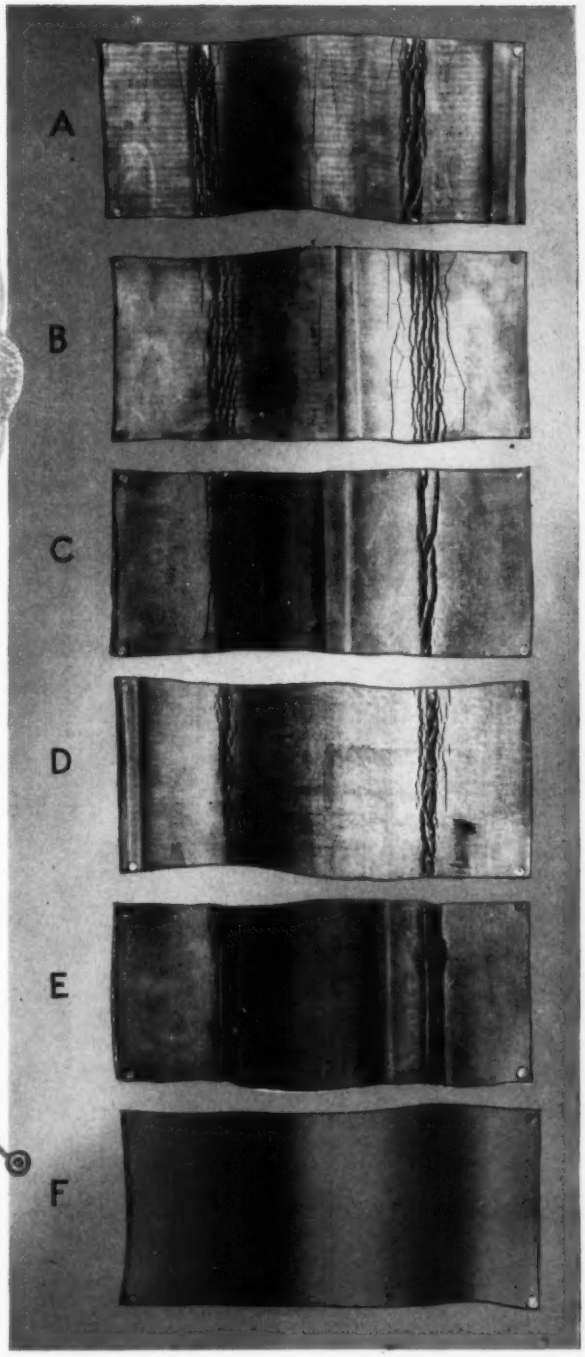
"I want it to read 'Rest in Peace' on both sides," the customer directed.

And that's just what he got. When the ribbon was delivered it read:

"Rest in peace on both sides.

"M-R-L-T-D—How am I doing, Mac?"

BOMB TESTED FOR LONGER WEAR



The rubber lining in a length of Eureka Fire Hose is subjected to the Oxygen Bomb Test to make sure that it has the required endurance, to resist heat, pressure and other service conditions. This lining is one reason why Eureka remains resilient, uncracked and smooth, and why it gives longer, more efficient service.

Results of Oxygen Bomb Test

Shown at the right are samples of fire hose of other makes and a length of Eureka (sample F) which was selected from stock. All were subjected to the same Bomb Test. Note how samples A, B, C, D and E have become brittle and cracked, while the sample of Eureka Hose, F, is still smooth, resilient and uncracked—visible proof of Eureka's long-life qualities!

Other Eureka advantages include the unique Smooth-Interior Filler Ply for maximum nozzle pressure, Mildew Proofing with "Formula X", Balanced Weave and Controlled Curing to eliminate excessive warping and stretching.

EUREKA

"For greater protection to life and property"

EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Cotton Rubber-Lined Fire Hose

195 Hudson Street • New York 13, N. Y.

Division of United States Rubber Company

Electronic Ear

(*Continued from page* 430)

are a great aid to civil defense communications.

He described the mobile radio uses as three progressive degrees of privacy, from a "party-line" system through a "private-line" system.

As currently operated by numerous agencies like police and fire departments, and taxicab companies, all equipment in a mobile two-way radio system operate on a single frequency or pair of frequencies. Where two frequencies are used, one is for the dispatcher to call mobiles, and the other for mobiles to call the dispatcher.

This one frequency per system means that all persons in the system hear all calls made. No two persons can talk privately. Much strain and confusion is caused for drivers and passengers, who hear all calls, whether intended for them or not.

Selective Dispatching

Use of the new tones and electronic "ears" can reduce this strain and confusion through a method called selective dispatching, Rouault said. For example, a taxicab company with 100 radio-equipped cabs can be divided into ten groups. Electronic "ears" would be added to radio receivers in the 100 cabs. The "ears" in each group would "hear" a different tone, a total of ten tones. The dispatcher could then talk with an individual by pushing the button for his group. Only the ten drivers in that group would hear the dispatcher's call, and when the called driver replied, th other nine receivers in the group woul automatically drop out of the ensuin conversation.

Duplex Dispatching

This method carries the above on step further, by adding an electroni "ear" to the dispatcher's receiver, an tone generators to the cab transmitters This system permits a driver to call th dispatcher without being heard by an of the other drivers.

Selective Calling

The final step, or "private-line" meth od of using the tones and "ears" is se lective calling. For this method, th receivers in each of the 100 radio-cab would have an electronic "ear" capabl of hearing a different combination o tones. The dispatcher could therefor call any one individual driver privately just as you dial a telephone numbe the G-E engineer explained.

Selective calling would be most usefu in radio systems having large numbe of mobile receivers, and where privat conversations are necessary or desired Any number of parties can be privatel contacted by selective calling, from t few to more than 500,000.

In all these methods for increasin privacy, no one need be without use o his radio. Anyone in the system may by lifting his microphone off the hook interrupt any conversation should a emergency make this necessary.

AT THE HEAD OF YOUR LINE . . .

you need a good LEADER . . . .

HART SHUT-OFF NOZZLE THREADED TO SUIT

A leader in more ways than one. It has a long and time-honored reputation for long, dependable, rugged service.

NEW YORK FIRE DEPT. STYLE SHUT-OFF NOZZLE WITH PLAIN TIP. CAN ALSO BE SUPPLIED WITH STACKED TIP

This dependable Shut-Off Leader comes in the 2½" size. It is built to stand up and function perfectly under the most rugged treatment. The Fire Service has learned to depend on this nozzle for more than 50 years.

SACHEM LEADER LINE SHUT-OFF NOZZLE

Comes in 1½" size for hose connections. Tip end of nozzle with booster thread for connecting booster hose for clean-up. The Sachem Leader line shut-off nozzle has earned an enviable record. It is truly a leader. It is one shut-off nozzle you can order and be assured you are getting your money's worth.

Investigate Powhatan's famous line of Brass Fire Fighting Equipment.

POWHATAN BRASS and IRON WORKS
RANSON, WEST VIRGINIA
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Established 1892

Rochester Chiefs to Have Radio Equipped Station Wagons

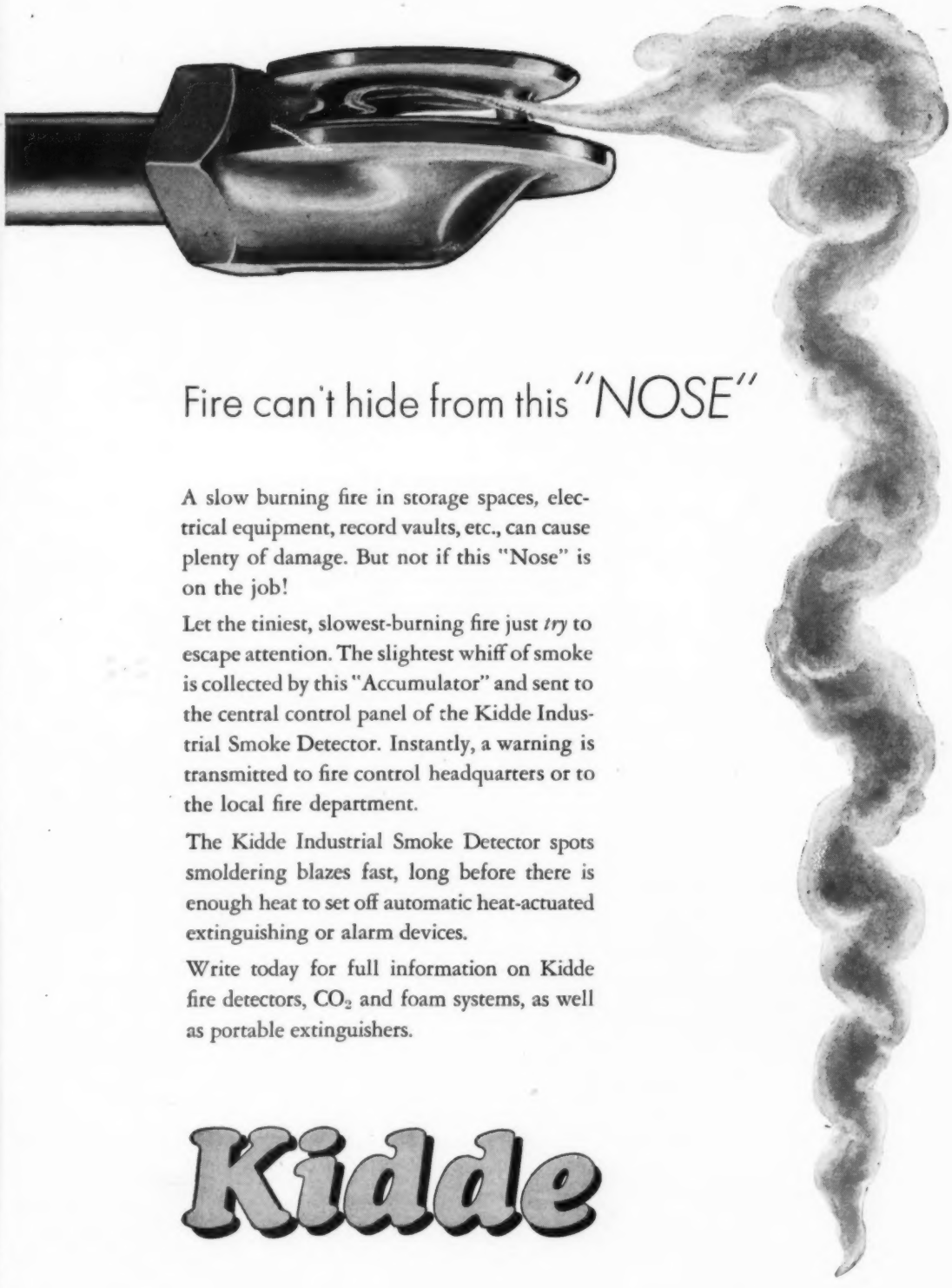
Battalion Chiefs of the Rochester N. Y., Fire Bureau will soon join th "station wagon set," it is disclosed. An nouncement was made late in Februar of the purchase of four station wagon for the use of chiefs of the four fir battalions in the city.

The new vehicles will be painted re and have sirens and red dome-typ warning lights. In addition to the chief and their aides, the units will carr stretchers, blankets, oxygen tanks, ga masks, portable lights, handy-talki radios and other essential items. The will also be equipped with two-way radio which is rapidly becoming standar equipment with for all Rochester an Monroe County fire equipment.

The idea of having battalion and othe chiefs utilize station wagons or larg convertible passenger vehicles has bee tried out in a very limited way by th fire service, and with reported succes However, it is believed Rochester is th first city to introduce such vehicles s completely equipped for light rescue an first aid work.

Public Safety Commissioner Kenneth C. Townson, and officials of the Fir Bureau, have been weighing the possibil ities of this innovation for some time in connection with other improvement being introduced in the Rochester Fir Department. Among the development slated for the current year are the ac quisition of a Rescue Squad, an addi tional metal aerial ladder; and two ne pumpers. Construction will also begi this year, on the new Fire College, u timately to cost $785,000, and which i destined to serve as the training cente for all member units of the Monro County Mutual Aid Plan as well as th Rochester Fire Bureau.

PERRY O. POPP



Fire can't hide from this *"NOSE"*

A slow burning fire in storage spaces, electrical equipment, record vaults, etc., can cause plenty of damage. But not if this "Nose" is on the job!

Let the tiniest, slowest-burning fire just *try* to escape attention. The slightest whiff of smoke is collected by this "Accumulator" and sent to the central control panel of the Kidde Industrial Smoke Detector. Instantly, a warning is transmitted to fire control headquarters or to the local fire department.

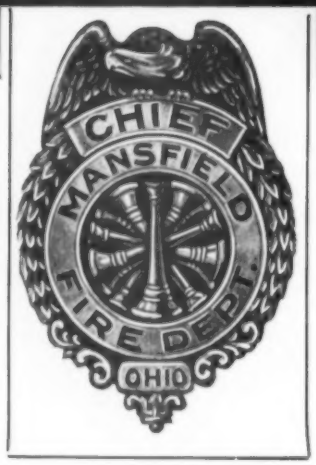
The Kidde Industrial Smoke Detector spots smoldering blazes fast, long before there is enough heat to set off automatic heat-actuated extinguishing or alarm devices.

Write today for full information on Kidde fire detectors, CO_2 and foam systems, as well as portable extinguishers.

Kidde

Walter Kidde & Company, Inc., 633 Main St., Belleville 9, N. J.
Walter Kidde & Company of Canada, Ltd., Montreal, P. Q.

BRAXMAR
GREATEST NAME IN
BADGES



Since 1879

Firemen the world over rely on Braxmar for the finest badges money can buy. We offer the widest possible selection in nickel, chrome plate, sterling silver, gold plate, rolled gold and solid gold; all of our badges and insignia are the work of experts with a lifetime of service.

Write for latest circular.

C. G. BRAXMAR CO., Inc.
JOHN O. VEIT, President — JOHN O. VEIT, JR., Secretary-Treasurer
216 E. 45th Street, New York 17, N. Y.

The ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

RADIO PROGRESS IN THE FIRE SERVICE

THE discussion in this Round Table is a continuation of that which appeared in the May issue of FIRE ENGINEERING on the use of radio in fire departments.

The generous response from our readers makes it necessary to carry the discussion over to this issue and to the June issue as well.

Readers are invited to send in their comments on this subject which is described in the box below. Address replies to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Question

M. H. Sutton, Chief, Washington, D. C.: One hundred per cent of our vehicles are equipped with two-way radio, a total of 125 sets in service.

We use radio for turn-back apparatus, for requesting additional equipment at the scene and for issuing orders to units involved in long layouts.

Key personnel of the Fire Prevention Division have cars equipped with two-way radio for quick dispatch. The use of this equipment permits units to make inspections of their districts and still maintain contact with the Communication Division.

I believe the addition of two-way radio in the fire service has been the greatest improvement since the introduction of motorized equipment.

F. E. Wood, Chief, Wichita, Kans.: About sixty per cent of our apparatus is equipped with radio at the present time. We ultimately hope to have all vehicles so equipped.

We use radio in "turn-around" operations to save mileage and thus lower accidents and operating costs.

Wallace Swafford, Chief, Coeur d'Alene, Idaho: Twenty-five per cent of our equipment is equipped with two-way radio. We hope ultimately to raise this figure to from fifty to seventy-five per cent.

Allie A. Feldman, Chief, Denver, Colo.: We have two-way radio on all chiefs' cars, two rescue squads, line department service trucks and cars and repair trucks and cars. We hope to fully equip our department in the future.

We do use radio in the "turn-around" system on our squads and chiefs' cars.

Our experience has been limited because of the small percentage of radios we have in use. We feel that it could expedite moving of apparatus from one fire to another under certain conditions. We also feel that it could improve inspections and whole companies could make the inspection and therefore do a more thorough job without keeping the apparatus out of service.

John Krusenklaus, Chief, Louisville, Ky.: All cars except engines, quads and trucks are equipped with two-way radio. We hope ultimately to have the department one hundred per cent equipped.

Radio could be used in conjunction with loud speakers to promote educational programs.

It has enabled us to utilize the services of a great number of our fire fighting force in inspection work without weakening the manpower of our companies and yet maintain the maximum of companies in service.

Our procedure is to have the battalion chiefs of their particular districts spot the "targets" to be inspected. Being equipped with two-way radio, the battalion chief accompanies the apparatus to the inspection location. I might mention that each company is restricted to locations within its first alarm area, which means that there would be little, if any, delay in its response to a call ordinarily made on the first alarm.

An inspector from the Fire Prevention Bureau accompanies the fire fight

HERE IS THE QUESTION

1. **Do you use 2-way radio in your department? If so, what percentage of your vehicles are equipped for 2-way or 3-way conversations? If not fully equipped at present, do you expect to ultimately be 100 per cent radio equipped?**
2. **Do you use radio in a "turn-around" system to save mileage and attendant lowering of accidents, operating costs, etc. of your motorized equipment?**
3. **Have you any suggestions to broaden and improve fire department use of modern short wave radio:**
   - **(a) In fire control and extinguishment?**
   - **(b) In fire prevention (inspections, etc.)?**
   - **(c) In improving public relations?**

QUAKER HOSE CHOICE OF FIRE FIGHTERS...COAST TO COAST

TOUGH, DEPENDABLE

PROTECTS 1464 TOWNS AND CITIES

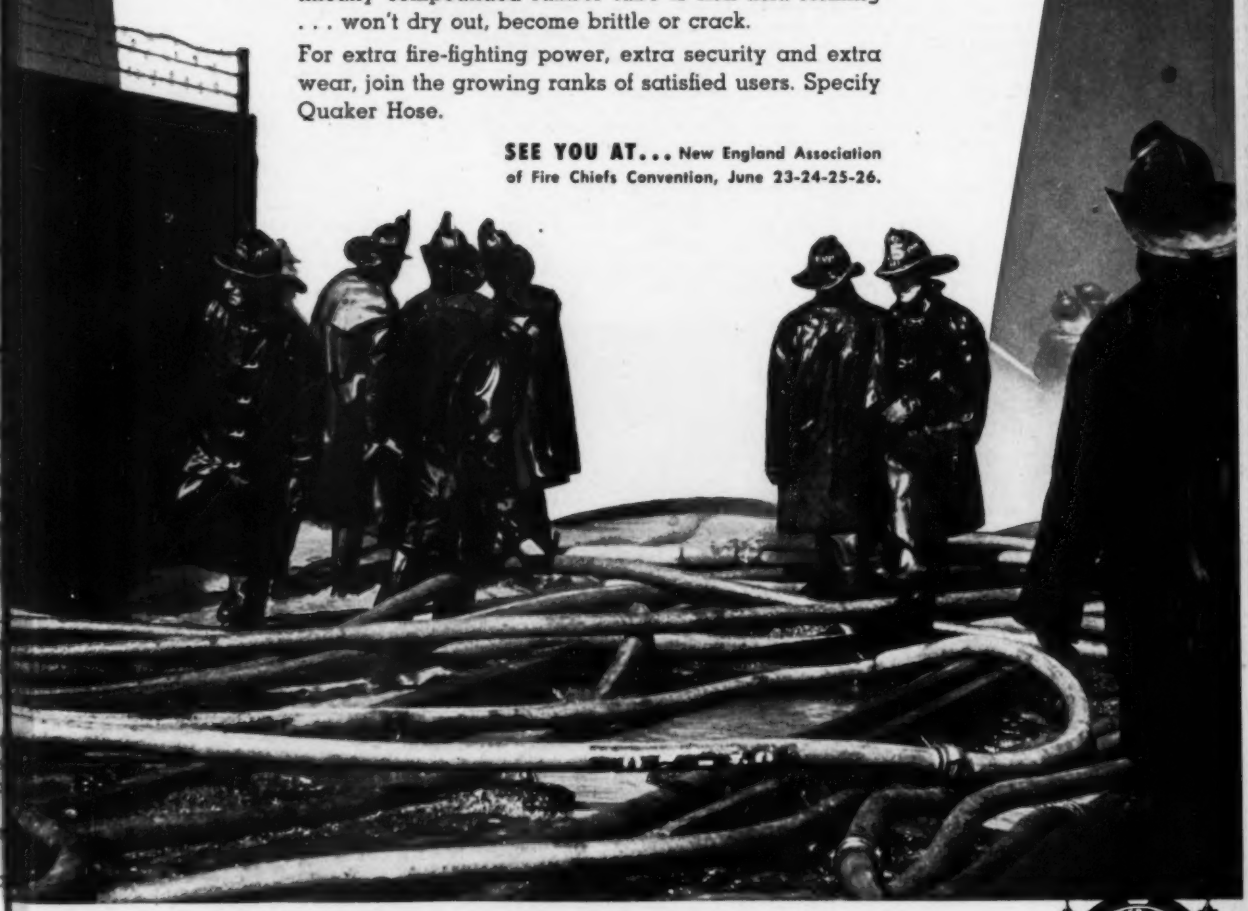
Fire fighters across the nation depend on Quaker Fire Hose because it's stronger, lighter, more compact.

They find that Quaker's flat-fold construction packs 3 feet of fire hose in truckbeds in the space of 2. Quaker provides vital extra footage for getting at those high, hard to reach, out of the way spots.

Quaker Hose is built to take terrific punishment. Tough cotton jacket resists severe abrasion and heat. Scientifically compounded rubber tube is non-acid forming . . . won't dry out, become brittle or crack.

For extra fire-fighting power, extra security and extra wear, join the growing ranks of satisfied users. Specify Quaker Hose.

SEE YOU AT... New England Association of Fire Chiefs Convention, June 23-24-25-26.



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REG. U. S. PAT. OFF.

ing force on its tour of inspection and the aide of the battalion chief stays with the radio thereby keeping in constant contact with the fire alarm dispatchers.

Since our department is composed of three battalion districts, this arrangement permits us to have three companies or an average of eighteen men on inspection duty at any one time.

Our inspections are not made in an endeavor to set up a record number of inspections, but rather to enable every man to familiarize himself with special protective or hazardous conditions in or upon the premises which would in the event of fire, permit a much better job of fire extinguishment as well as to minimize the dangers of the fire fighting personnel.

George Engler, Chief, Rapid City, S. Dak.: We have had two-way radio in our department for eighteen years. One hundred per cent of our vehicles are so equipped.

We use radio in a "turn-around" system to save mileage and attendant lowering of accidents, operating costs, etc.

More men can be detailed on inspections with radio-equipped trucks. The trucks are hooked up by radio to headquarters and any fire call that might be made during the time the truck and crew are away from the station can be promptly responded to.

George E. Hink, Deputy Commissioner and Chief of Fire Department, Philadelphia, Pa.: The Fire Alarm Communications System in Philadelphia is installed, maintained, and operated by the Electrical Bureau.

The Electrical Bureau, under the supervision of Edgar P. Grim, Chief, has complete charge of all the city's communication facilities. The efficiency of this system in our opinion, is attributable to the fact that one man is held responsible for all communications. There is no divided responsibility.

There is divided responsibility, however, in the operation of this communications system. All orders regarding the operation of the Electrical Bureau's Fire Alarm Communication System are issued jointly by the Deputy Commissioner of Fire, George E. Hink, Chief of the Fire Department, and/or Edgar P. Grim, Chief of the Electrical Bureau. The operation of Philadelphia's Fire Alarm Communication System is acknowledged to be one of the most efficient in the United States.

This radio system was installed by the Electrical Bureau's Communication Division for service in the Philadelphia Fire Department. The system was placed in service February 12, 1951, and consists of RCA equipment operating on 170.15 mc for the Main Station, and 154.01 mc for equipment on the apparatus. Handie-Talkies operate on 33.42 mc.

All fire companies, emergency crews, fire boats, fire marshals, fire officials, Electrical Bureau officials and radio maintenance crews are 100% equipped with two-way radio for full duplex operation; making a total of 148 installations, plus 11 Handie-Talkie Units.

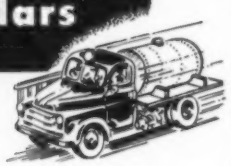
The Electrical Bureau's Fire Radio Communication System also includes one complete Mobile Communication Unit, having the following facilities: Fire Radio Main Station Equipment, Fire Radio Apparatus Equipment, Police Radio Main Station Equipment, Police Radio Car Equipment, three bands of Amateur Radio Equipment operating in the 2-10-75 meter bands, Radio Equipment for operation with C.A.P., Bell Telephone Radio Equipment and facilities to connect with 16 land-line telephone circuits. This Mobile Communications Unit responds to all two-alarm fires (or more), and other natural catastrophes throughout the city, and is immediately set up as the Main Communications Unit. The Chief of the Fire Department, George E. Hink, uses this Unit as his headquarters to survey the entire fire grounds, and utilizes the unit's Public Address System to direct personnel and companies to the most advantageous points in order to effectively and efficiently fight the fire. The Fire Department also has one large Hospital Unit, fully equipped with two-way radio service, which is used mostly on multiple-alarm fires.

The Electrical Bureau's Fire Communication Division proposes to install one-way radio receivers in each and every fire house and official's office as an added precaution against failure of land-wire communication facilities.

Use of radio in a "turn-around" system has resulted in increased flexibility of operation, lower operating costs in lessened mileage and reduction of accidents.

The Electrical Bureau's Communication Division is constantly studying

Build your own fire truck for a few hundred dollars



The time has come when rural fire protection should leave the "Fancy Dan" class so that every small community can do a real down-to-earth job of extinguishing fires rapidly, simply and inexpensively.

The nickel plate, red paint, gadgets and polish are good if you can afford them. But all you need for sound, economical fire protection is an Oberdorfer All Bronze Pump hooked up to the transmission of a dependable truck that carries a tank of water loaded with a good wetting agent.

Effective fire control starts just as soon as this outfit can reach its destination and a man can grab the nozzle end of the booster hose and get to the fire. The resulting penetrating stream of over 125 lbs. pressure is the fastest and most important phase of fire fighting.

Do you have a garage, a truck and a mechanic with a little common sense? We have the pump you need. Write for details.

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ROTARY GEAR PUMP

PERFORMANCE DATA—No. 13 PUMP SHOWN ABOVE

Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
1600	120	500'—1½"	15'	75

For complete specifications of this and other Oberdorfer All Bronze Booster Pumps, and name of your nearest distributor, write:

FIRE PUMP DIVISION OBERDORFER FOUNDRIES, INC., Syracuse, N.Y.

methods for the utilization of the fire two-way radio system to the best advantage of the Fire Department.

There are numerous ways of using radio equipment in fire control and extinguishment.

1. Handie-Talkies are used for local communication, at the fire grounds between the Chief and the fire ground communication station.
2. Directing the placement of companies on the fire grounds.
3. Directing the control of water pressure.
4. On multiple alarms, one unit is set up as a communications unit, which eliminates possible chaos of conflicting orders which may be issued.
5. Use of the C.A.P. frequency permits airplane observation and report as to the extended coverage of the fire.

In fire prevention the radio system has a very active part.

1. Fire Marshal cars, radio maintenance cars and official cars, being equipped with radio, are in direct contact with the Electrical Bureau's Fire Communication System at all times, making it possible to send emergency reports on any unusual conditions.
2. The Battalion Chief's cars are equipped with radio, and are always in contact with Fire Alarm Headquarters while making inspections.

The Electrical Bureau's Fire Radio Communications has been a tremendous factor in building up public relations. Talks and demonstrations of the Fire Alarm Communications System are continuously being given to various school groups, clubs, and civic organizations.

1. The advantage of radio in the operation of the Fire Department has been brought to the attention of the public by means of publications, radio and television broadcasts, and officials speaking at public gatherings.
2. Radio service furnished to the Insurance Patrols has resulted in reduction of water damage and increase in salvage, to the benefit of the public.
3. Fire clubs and associations have purchased their own radio equipment and monitor alarms of fire, frequently volunteering their services at fires. The interest and activity of these clubs and associations in matters pertaining to fire has been instrumental in promoting good will and establishing excellent public relations.

J. K. Piercey, Chief, Salt Lake City, Utah: All vehicles are equipped with 3-way radio facilities.

Eleven Salt Lake City Fire Stations answer 63 square miles, this means long average responses. Radio "turn around" signal is used extensively and is saving considerable mileage as well as placing companies back in service much sooner.

The following code is in effect, as well as worded messages, and has proven to be a clearer, more easily understood method of sending these messages. This is in addition to eliminating numerous misunderstandings of the message given.

601—In service—enroute to station
602—In service at the fire

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...an illustrated fact-book about 2-way radio in public-safety services. Tells "how-it-works" and "how-to-use-it" in easy, straightforward terms.

...shows how RCA 2-way radio speeds law enforcement, fire-fighting operations. Describes municipal and state communication networks. Illustrates use in forestry conservation, flood control, game-law enforcement.

In highway maintenance, it shows how RCA 2-way radio can speed operations...cut costs. There is even information about civil defense... disaster relief...school bus co-ordination...ambulance dispatching...physicians and veterinarians.

It explains RCA's consultation service...its maintenance plan...tells how RCA helps plan the best 2-way radio system for your needs...how to obtain frequency assignments...FCC Construction Permits.

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City_____ State_____

RCA RADIO CORPORATION of AMERICA

603—Use telephone — contact alarm office
604—Company go to headquarters
605—Company return to own station
606—Proceed with caution—no emergency
607—Received dispatch (confirmation is given)

Full use should be made of the radio in directing and placing apparatus coming into a fire, instructing as to where to go and what is expected of the company. Rescue can be speeded up and become more efficient. Apparatus and equipment is placed better and more effectively used. Entire fire fighting areas can become better covered and companies balanced. Much information can be passed back and forth at fires, if we learn to use the radio properly.

Inspections can be very effectively done by radio. Men enjoy this duty more by inspecting under these conditions. Inspections are better supervised and increase in number and efficiency. Preplanning of fire fighting, recognizing of hazardous conditions and the exchange of information and ideas is surprisingly increased on this type of inspection tour while in service on the radio. This also creates an incentive to keep apparatus looking its best and the men to appear alert and neat as they appear in public. The public in return, will become more interested in its department.

Hoyt M. Ayers, Chief, Birmingham, Ala.: The Birmingham Fire Department radio system has 50-Watt main transmitters operating on 154.9 megacycle band. Every piece of apparatus in this department is equipped with three way radio and every station is equipped with a receiver.

Some of the most common uses of our radio system are as follows:

1. To dispatch companies out of station on all fire alarms, both box and telephone, which helps eliminate the possibility of errors in receiving alarms.
2. To call for additional companies when needed at a fire. (2nd and 3rd alarms or specific apparatus).
3. To direct apparatus how to approach a fire.
4. To correct an address while apparatus is on the way or to give them additional orders.
5. To return apparatus to the station, when a fire is reported out before arrival.
6. While apparatus is returning to quarters, if their condition permits, to send them on another alarm.
7. To notify all stations simultaneously of any street blocks, fire hydrants out of service, etc.
8. For Chiefs and apparatus to mark out of service and back in service for all reasons.
9. To call for an ambulance; to dispatch repair trucks to apparatus; to call for Police where needed; and to give orders to companies at a fire.

The three way radio is also used by companies for making inspections. One man remains with the apparatus while others inspect nearby dwellings, businesses, etc. thus allowing the entire company to remain in service. This method of inspection has proved to be very efficient.

In addition to fire fighting equipment, we also use Handie Talkies which are useful in directing operations during a fire. These are helpful as companies can be contacted from inside the building as well as from the apparatus.

During our daily activities, we find additional uses and advantages of this radio system. I would recommend three way radio for any efficiency minded fire department.

V. A. Parker, Chief, Cumberland, Md.: We have no radio equipment, but expect to install it in the chief's car soon and try for 100 per cent later. I believe radio equipped vehicles for fire departments are the biggest asset since the invention of high pressure pumps.

Harold C. Fisk, Chief, Tacoma, Wash.: All apparatus, staff cars, inspectors cars, the mechanic's car and the fire boat are equipped with three-way radio.

We use it in a "turn-around" operation.

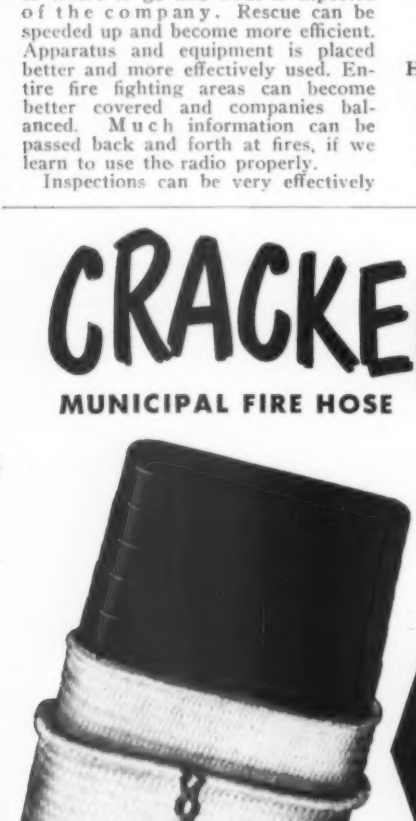
We also use walkie-talkies.

William D. Thomas, Chief, Binghamton, N. Y.: I regret to say that our department does not use two-way radio at the present time. However, sufficient funds are now available for the replacement of the one-way radio (with two-way) now in use on our three chiefs cars and the squad apparatus.

We are hoping that in the future additional funds will be available so that additional pieces of equipment can be equipped with two-way radio.

To express my opinion after having read what other departments are doing with two-way radio, I feel that the "turn-around" system and its use in fire prevention (inspections, etc.) are outstanding in giving added protection.

CRACKERJACK
MUNICIPAL FIRE HOSE



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SMOOTH WATERWAY . . . lowest possible friction loss.

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Among the Buffs

By Paul C. Ditzel

ONE of the area's biggest fires in recent months caused 1½ million dollars damage recently at the famous Warner Brothers Studios in nearby Burbank. I was due to respond, but the city editor decided I could better remain in the office at my unglamorous and unexciting rewrite post and bang out copy on the fire from notes phoned in by one of our Hollywood beatmen.

The studio's publicity crews and motion picture cameramen, in true Hollywood style, made the best of the affair. Luscious stars were posed near the blazing sound stage and sets for publicity shots. One blonde was photographed cuddling two kittens—whatever they had to do with the fire—near the blazing buildings. Cameramen gleefully remarked, "We've got enough fire footage to last us a lifetime!"

I hope to have a more complete report on the Warner Brothers Fire in a near future article I'm planning for this journal's news columns.

Returned from San Francisco only several days ago but was so busy covering a church conference that I was unable to see much of the fire department. Our hotel looked down on two of the city's busiest outfits and they were generally good for a turnout just as I started to drop off to sleep. They even staged a three-bagger around the corner from the hotel but this buff, lazied perhaps by the warmth of Los Angeles, couldn't drag his bag of bones out of bed to take it in. Perhaps I'm leaving myself open to a charge of heresy, but it's a confession I must make!

An important-looking document from Fire Chief George J. Bertsch of the U.S. Military Academy at West Point notified me I've been made an honorary chief of the West Point fire department. I take this as even more of an honor inasmuch as I am a former Marine Corps Sergeant, who hasn't changed his opinion one bit about branches other than the Marines.

Seriously, Chief Bertsch, thanks! I remember this chief when he was a captain of one of Buffalo's busiest truck companies. He had a reputation among his fellow firemen and firemen throughout the department of being one of the smoke-eatingest men in the department.

But Chief Bertsch's claim to fame doesn't stop there. Many of you undoubtedly recall Chief Bertsch as the famous Olympic and National AAU track star of not too many years ago. I recall a day of an important track meet in Buffalo. I believe George was to run the mile that night after he went off duty. A few hours before he went off, his company caught a smoky attic fire and George got quite a bellyfull of smoke. But he made it to the track meet and even set a record, as he easily won the event.

I'm indebted to Chief Bertsch in another way. We got along fine because I, too, hoped to be something of a runner. Chief Bertsch patiently trained me, and in-between we talked fires. If it wasn't for his training, I'm sure I never would have set those Western New York sprint records and gone to the national and junior AAU championships in New

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because fire in any unventilated area consumes the oxygen in the atmosphere and produces deadly, invisible gases. ONLY self-contained breathing equipment provides safety in such oxygen-deficient areas. SCOTT AIR-PAK supplies cool fresh air for breathing freedom and protects the eyes from irritating smoke. There's no fogging of lenses to restrict your work inside a burning building. SCOTT helps you fight fires faster . . . safer.

That's why thousands of Fire Departments are using SCOTT AIR-PAKS . . . You're safe when you're wearing a SCOTT.

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Scott Air-Pak (above)—½ hour minimum duration at extreme exertion. Weight as worn 29½ lbs.

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York. Remember those days, George? When George hung up his spikes, he became an official AAU handicapper and got the reputation of being about the best in the game.

Chief Bertsch reports he's been kept busy with 17 working fires since last July (his letter was written April 28) and adds he also gets some big brush fires "in this rattle-snake infested area."

West Point's equipment includes six pumpers, an 85-foot Seagrave aerial, a 1350 gallon tanker fully equipped, an emergency rig with deck pipe and trailer and other portable equipment.

He says most of the 17 workers were caused by careless smoking and children playing with matches. An $8,000 residence fire caused by a painter's blow torch, was knocked out with 50 gallons of water.

"We had a $27,500 fire on St. Valentine's Day at 9:30 p. m. in the range headquarters building loaded with lumber, paint, varnish and thinner; of frame and outside stone construction. The building was lost due to a 30-minute delayed alarm.

"This fire was raging adjacent to our $5,000,000 frame summer camp and we saved this camp with 3 pumpers taking suction from creeks, which is real fire-fighting in temperatures of 9 above zero and a 40 mile gale blowing," Chief Bertsch writes.

I had a fine phone conversation several Sundays ago with Detroit Buff Bud Mabee. We found we both were familiar with some of the gang in Chicago's Battalion 2, which was "home" for both of us when we were in Chicago. Bud was visiting Los Angeles.

Jack Robrecht, of 5113 Willows Ave., Philadelphia 43, Pa., quite a track star in his own right, reminds area buffs of an affair in Pottstown, Pa., on July 4, at 12:30 p.m. Jack says 200 fire companies are expected and "should be a fire apparatus photographer's dream."

Returning to quarters, I remind you the location is still the same: Associated Press, P.O. Box 2416, Terminal Annex Los Angeles 54, Calif. Don't be afraid to call if you're in town: Office: Richmond 7-9594 or Madison 7828 and, at home: Hollywood 9-1580.

In Retrospect—75 Years Ago

GENEVA, N.Y.—It has lately transpired that not only have buildings been fired, but attempts have been made to disable the fire steamers from speedily extinguishing the conflagration started. The hydrant wrenches on the hose cart of Steamer No. 1 were changed with those on Steamer No. 2, so that the steamer that first reached the fire would be unable to do any work until the proper wrenches had been found. In view of these facts, a public meeting of citizens was called, and the result was the passage of a resolution requesting the Board of Trustees of the Village to offer a reward of $1,000 for the arrest and conviction of the incendiary.

* * *

WEST HOBOKEN, N. J.—During the past week, the upper portion of West Hoboken, N. J., known as Bormsville, was the scene of quite a conflagration, no less than a half dozen houses being destroyed. The old story is again told: The lack of apparatuses caused the disaster. For the past ten years, the firemen have been urging the Town Committee to purchase them a steamer, but like all other close corporations, they would not spend one cent more than they were actually required to do.

* * *

PARIS, FRANCE—The French think they have discovered the secret of safety in a law which fastens the responsibility for a fire on the person in whose premises it originated, and prevents him from recovering insurance on the property burned. This provision seems to have worked well in France in decreasing the number of fires and is of value from the extreme watchfulness which it reuires in tenants and owners.

* * *

CHICAGO, ILL.—A correspondent of a Chicago paper, makes a suggestion looking to the saving of goods at fires, which is worthy of consideration by those having control over the Fire Patrol. He suggests that the city provide for each fire district a certain number of light boxes on sheet-iron trucks which can be filled with goods and, after being locked, can be run into the street and left there in perfect safety until it becomes necessary to remove them. No doubt this plan, if adopted, would be the means of saving, during the year, a great amount of valuable property which otherwise will be destroyed.

* * *

NEW HAVEN, CONN.—An extensive fire occurred in the rubber works of Caudee and Company at New Haven, Conecticut, on Monday evening. It is calculated to raise a smile to read that "the fire broke out while the prominent officials of the New Haven and Norwalk Fire Departments were going over the building, inspecting new

AIR PORT FIRE FIGHTERS SPECIFY BAR-WAY COUPLINGS

For booster and high pressure fog lines

There are four good reasons why the fire fighters specify BAR-WAY couplings. Four reasons why BAR-WAY couplings are growing in favour with firemen, hydraulic engineers and others who insist on the best.

→ **SAFETY**—The coupling becomes the *strongest part of the hose line.* Tested to 3000 pounds pressure and 500 pounds pull.

→ **FULL FLOW**—No suppression of flow in coupling. No shrinkage of hose at coupling.

→ **FLEXIBILITY**—Reels smoother. Easily replaced. Nothing to catch on corners or underbrush.

→ **BETTER MADE**—Accurately machined, always the same, interchangeable. WILL NOT FAIL.

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WEST COAST REPRESENTATIVE } W. D. RIGDON, 383 Brannan Street, San Francisco 7, Calif.

fire extinguishers which had been recently put in. The fire spread so rapidly that they had hardly time to get out. The fire extinguishers and other appliances were of no avail." Another of those illustrations going to demonstrate what we have before stated, that fire appliances are of little use unless placed in the hands of men trained in their use.

* * *

DETROIT, MICH. — There is not much fire news to write you at present. We have an excellent Department, well officered and disciplined, but not fires enough to keep us in very active service. That is, not such active service as I used to get in New York. Last week, Wednesday, we had a slight shaking up in the shape of an inspection. Chief Battle, accompanied by Mayor Lewis and Council, the Fire Commissioners and some prominent citizens took it into their heads to visit all the companies in the city, and put them through their paces. They found us in our every-day condition—no fixed-up parade and nonsense—but we showed them we were "on deck" every time.

* * *

MINNEAPOLIS, MINN.—The Minneapolis Fire Departments—for there are two of them — though efficient and well equipped, are far from being perfect. That they will compare favorably with any like organizations in cities of our size, 40,000 inhabitants, we are well assured but we aim at something still higher.

That the relations of these Departments may be better understood, a word of explanation is necessary. Minneapolis is built on both sides of the Mississippi River and when the municipal governments were consolidated, it was deemed inexpedient to make a perfect union, and among the excepted city functions was the Fire Department. As a consequence, two separate organizations are maintained, as independent under ordinary circumstances, as though they were separated by hundreds of miles, instead of divided by a narrow stream of water. They act in concert only in case of a conflagration of too great proportion to be fought successfully by one department.

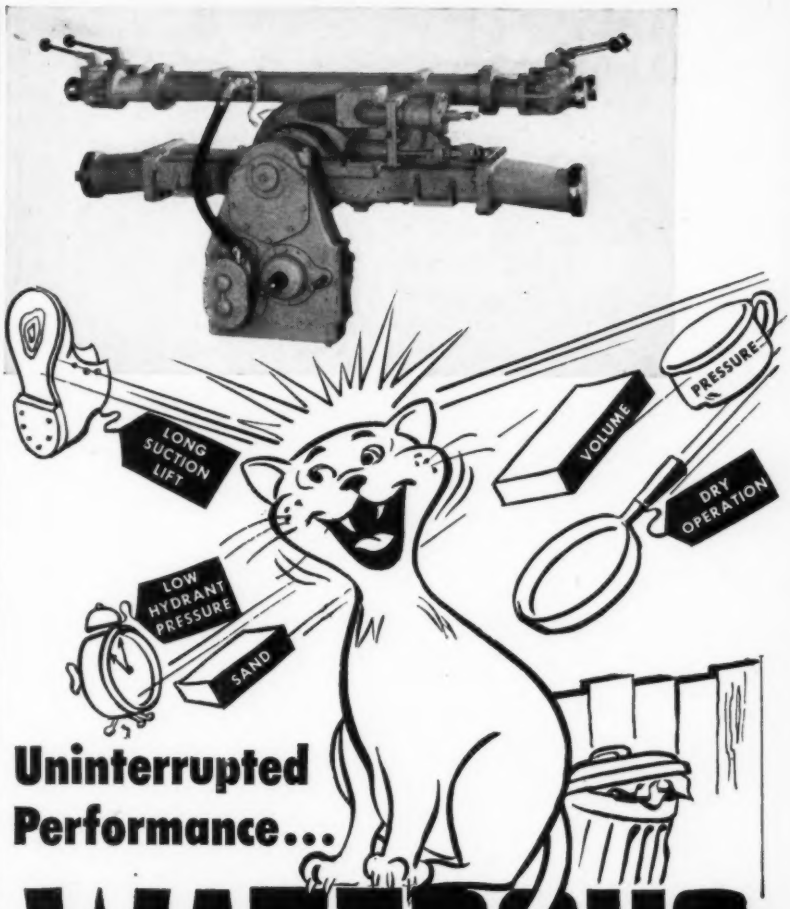
World Wide Fire News

By Roi B. Woolley

8,000 Ask $9 Million in South Amboy Blast

Claims ranging from $5.90 to $50,000 were grouped into a combined suit by approximately 8,000 plaintiffs, in a petition weighing 10 lbs., filed with the U.S. District Court in May. The claims would cost the Federal Government about $900,000 a pound for damages resulting from a munitions explosion in South Amboy May 19, 1950 (See FIRE ENGINEERING, June, 1950, issue).

The petition, filed under the Federal Tort Claims Act, seeks a total of $9 million damages, and charges that the government failed to provide properly trained personnel to handle the munitions, which included anti-tank and anti-personnel mines and dynamite. The plaintiffs also contend that the government was guilty of negligent supervision of the manufacture, packing and loading of the materials and with failing to provide adequate and sufficient personnel



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No. 930 Junior Type Roto-Rays

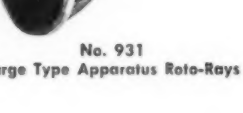
No. 931
Large Type Apparatus Roto-Rays

SEEING IS BELIEVING!

And these powerful Buckeye signals leave no doubt in the minds of pedestrians and motorists that official vehicles are on the way!

The revolving red lights of the Roto-Rays cut through the glare of street lights, giving the exact location of your apparatus and the direction in which it is traveling.

Likewise, the Buckeye Moto-Ray provides positive identification of emergency vehicles by day or night, throwing its strong red beam from left to right 40 times a minute.



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HOWE Fire Truck Equipment Meeting Every Service Since 1872
Centrifugal, Rotary and Piston Pumps Supplied
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to safeguard the area in which the explosions occurred.

* * *

TV Towers Worry Aviators—and Fire Fighters

Increasing use of television is not only adding to hazards of fire fighting inside structures, but on the outside.

It has been hoped that the forests of TV roof antennas might be reduced by the adoption of single universal aerials, serving multiple sets, but a new problem has arisen to concern both aviation pilots and fire fighters.

This is the "unlimited erection" of "steel needles"—television towers, which may follow the recent lifting of the freeze on television by the FCC.

"Erection of steel needles 1000 to 2000 feet above the surface, within or immediately adjacent to airport control zones and airways will seriously affect the safe and efficient operation of present and future air transportation" says the Air Line Pilots Association.

At the same time, fire officers are expressing concern over the problems these towers may offer in fire control and disaster operations. Wind storms and lightning may affect these spires, in turn calling for hazardous work by fire fighters.

The TV industry and the air pilots make these recommendations:

1. That Congress amend the Communications Act to give the FCC authorto deny applications when antenna sites or heights are found to be air hazards.
2. That all TV towers be located in city sections already considered air hazard areas.
3. That the height of TV towers be limited by the FCC or Congress.
4. That a radio warning device be installed at each antenna site.
5. That a national set of standards be written. Regional airspace committees would be required to obey these standards when considering TV tower applications.
6. That TV coverage be obtained through use of booster stations, so that high towers would not be necessary.

FCC rules now provide that TV towers may not rise higher than 2,000 feet above the average surrounding terrain. All these towers, regardless of height, must use warning lights and must be distinctly painted for the benefit of flyers. TV engineers, however, say reduction in height of TV towers would greatly limit distance reception.

* * *

From the World Wide Fire News Ticker

Fire, believed caused by Egypt's heat wave, touched off a series of explosions, March 31, in an ammunition dump at Helwan, site of excavations dating back to the Pharaohs. The fire originated in a cave 35 miles from Cairo, as the temperature reached 98 deg. Twelve fire engines confined the blasts to one cave although a series of blasts prevented firemen from entering. No casualties were reported. . . . At least 10 children were killed and more than 20 seriously injured on Mar. 30th, when a panic broke out in a movie theatre in Lima, over a false alarm that the roof was falling in. Doctors gave 15 survivors little hope of living. . . . A tunnel blast on March 25th near Caserta, Italy, killed 39 and injured 40. A store of dynamite exploded midway in the 3-mile hydroelectric tunnel. . . . The gasoline tank of a bus exploded in Trivandrum, India, killing eight passengers and injuring

thirteen others. The bus conductor was reported missing; the driver was arrested. . . . A chlorine gas container exploded in a cellulose factory at Walsum, near Dinslaken, Germany; April 4th, killing four workmen and injuring 110 others. . . . The British freighter Swanvalley radioed on April 4th that she was steaming across the Indian Ocean with two fires blazing in her 9,000-ton cargo of coal. One fire was being confined by steam; the other was giving more trouble. . . . Two women and two children were killed on April 8th, when fire destroyed 20 blocks in a residential district of Guayaquil, Ecuador's largest seaport. . . . The 1,390-ton Norwegian freighter Hiram caught fire April 9th en route from Hong Kong to Bangkok, Thailand, and went aground at Kohsichang near the entrance of the Nenam River. . . . Reports from the Village of Bihas Durgaganj, India, were that villagers were terror-stricken by a mysterious outbreak of fire every day exactly at noon. A different hut went up in flames each day for over a week. . . . In Tokyo a fire extinguisher factory caught fire March 23rd and much of it was destroyed. But police aren't blaming the efficiency of the plant's products; they're working on the theory that the fire extinguishers were tampered with by Communist factory hands. . . . In the village of San Marco, Italy, four children were killed and 22 persons injured when a woman tried to liven up The feast of St. Annunziata. She threw a large metal tube into a bonfire around which the group was sitting, singing hymns. It wasn't a firecracker as she supposed, but a war-relic bomb. . . . Firemen of Long Buckby, Eng., rushed up to Jack Goff's house, looked at the burning chimney and told him they would fight the flames from the roof. Gogg's house is one of a tightly-packed row of similar structures. A fireman clambered up with a hose, stuck the nozzle down a chimney, and cut loose. Screams burst forth from next door. One of Goff's neighbors, drenched, ran out. You guessed it—the lads had put the hose down the wrong chimney . . . (thanks WILSON DAVIS). . . .

* * *

Many Firemen Casualties in Freighter Fire

A total of 22 Vancouver, B. C., firemen were reported overcome by smoke or otherwise injured in battling the flames in the smoke-filled hull of the 10,942-ton Holland-America Steamship Line freighter Dongedyk, at Vancouver, on April 28, last.

The fire raged for more than four hours in the No. 3 hold of the 530-foot vessel, which had arrived in Vancouver only a few hours before flames broke out. The fire apparently centered in the section containing about a dozen British cars, steel, lumber, and 250-gallon steel storage tanks.

Quantities of water poured into the engine room of the vessel caused a heavy list to port, but firemen filled empty starboard storage tanks with water to bring the ship back to an even keel.

Cause of the fire, which caused more than $100,000 damage to the passenger cargo ship, on her maiden voyage, was not immediately determined. The blaze broke out as the unloading operations were started, and was fought by almost the entire city department aided by the ship's crew, which worked through the night stripping charred insulation from the walls of the hold.

CHIEF Rudolph H. Swanson

of Jamestown, New York, *President of the International Association of Fire Chiefs*, who last year made a European tour, studying fire fighting methods used abroad, issues this warning:

"Prepare *now* for any emergency. Purchase all of the fire equipment you will need. Do not delay. Being fully equipped and ready can save thousands of lives and millions in property damage."

ORDER YOUR INDIAN FIRE PUMPS NOW!

● Everyone connected with fire prevention should heed the warning of Chief Swanson. **INDIAN FIRE PUMPS** will play a big part in your fire fighting activities. Be sure you have an ample supply for "any emergency."

Send for circular describing all models of **INDIAN FIRE PUMPS** and listing present prices. Write us today.

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Questions and Answers

Why Suction Hose Bursts

To the Editor:

Recently our department had what the master mechanic termed "a third blow out of a hard suction hose." This occurred while our pumper was assisting a nearby town. When the engine stopped, the so-called 75-pound pressure on the main apparently blew a hole in the 5-inch suction hose near the coupling.

The master mechanic claims that hard suction hose will not take pressure over 75 to 100 pounds.

Under ordinary circumstances, our city is not a pumper city. In other words, we very seldom connect a pumper to a hydrant. The reason for this is that the business district and certain parts of the city are covered by a high pressure system (gravity). In the mercantile district, the pressure ranges from 160 pounds to 185 pounds in the high service.

C. T. B.

Answer: The specifications of the National Board of Fire Underwriters and the International Association of Fire Chiefs provide the following requirements for suction hose:

"(a) Suction hose where specified shall be smooth bore rubber, reinforced with wire, of a design having a low friction loss and which will not collapse under a vacuum of 23 inches of mercury and will withstand a pressure of 200 p.s.i."

Suction hose made by leading manufacturers invariably exceeds these pressure and vacuum specifications.

Apparently what happened when your suction hose failed was the result of water hammer. When the motion of flowing water is suddenly arrested, where the water is confined in a closed carrier, water hammer is produced. In some instances the water hammer may exceed the static pressure in the main by several hundred per cent. In fire hose, where there is flexibility, the water hammer will be less severe, but it still is a serious factor and may cause rupture of the suction hose.

This water hammer, or ram, starts at the point where the flow is first stopped and travels back through the line. In fire hose lines, water hammer is usually caused by closing shut-off nozzles too quickly. By this practice, flow of water through the line is almost instantly arrested. The quicker the nozzle is closed, the greater the hammer, or ram. The pressure wave travels back to the pumper and may subject the pump to dangerous strain. Where a centrifugal pump is being employed, the pressure wave travels through the pump to the suction hose and then through the hydrant into the main. Many burst sections of suction hose can be attributed to water hammer caused by snapping shut-off nozzles close. To prevent water hammer, shut-off nozzles should be closed slowly.

Carrying Capacity and Friction Loss of Hose Lines

To the Editor:

Please explain to me how the N. B. F. U. in their Bulletin No. 62 arrive at the following:

"(a) ¾-inch hose has a friction loss about 340 times that of 2½-inch hose, or it would take 24 lines of ¾-inch hose to deliver the same quantity of water.

"(b) 1-inch hose has 86 times the friction loss of 2½-inch hose.

"(c) 1½-inch hose has 13 times the friction of 2½-inch hose.

"(d) 3-inch hose has the capacity of 1.7 lines of 2½-inch hose.

J. T. O.

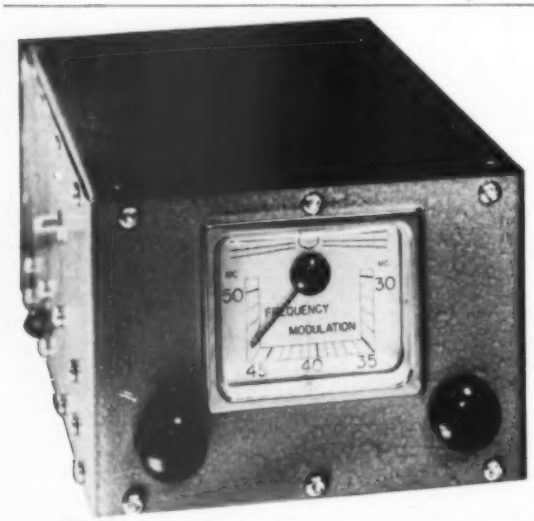
Answer A: The relative friction losses in different diameters of hose are secured from a comparison of the various conversion factors for changing one size of hose to another.

The factor for changing ¾-inch hose to 2½-inch hose is .0029.

The factor for 2½-inch hose is, naturally, 1.

Then the relative friction loss between the two lines can be secured by dividing 1 by .0029, giving 345 (or 340 approximately). Thus the friction loss in ¾-inch hose is about 340 times that in 2½-inch hose for the same flow.

Answer B: The conversion factor for 1-inch hose is .011. The relation between friction loss in 1-inch hose and



Model M-51

for emergency communications

USED BY HUNDREDS OF MUNICIPALITIES FROM BOSTON, MASS., TO ALHAMBRA, CAL.

POLICE ALARM MONITORADIO

Says S. L. Grant, City Manager, Winchester, Virginia ...
"I think you have a receiver that is well built, and I see no reason why it should not be in demand by all public works departments that have a transmitter available."

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Users of FM 2-Way Radio Communications equipment throughout the entire nation, find Polic-Alarm and Monitoradio a welcome innovation to low-cost mobile communications radio . . . receiving units that every municipality can afford! With them, channel neighbors are monitored for pertinent information —all staff members are constantly alert to communications while driving on or off duty, or at home . . . Polic-Alarm and Monitoradio are invaluable to vital communications systems expansion and development.

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2½-inch hose is then 1 ÷ .011, or 91. The Underwriters' figures give 86, which differs a little from the results secured by comparison of the conversion factors.

Answer C: The conversion factor for 1½-inch hose is .074. 1 ÷ .074 = 13, as indicated in the question.

Answer D: Here we find the flows which will give the same friction loss per 100 feet of hose and then compare these two flows. Taking, as an example, a flow of 300 gallons per minute for 2½-inch hose, we find that the friction loss is 21.2 pounds.

For 3-inch hose at 500 gallons per minute, the friction loss is also 21.2 pounds.

Then we divide 500 by 300 giving 1.7 which is the number of lines of 2½-inch hose which have the same capacity as a single line of 3-inch.

Effect of Flow on Friction Loss

To the Editor:

I would appreciate very much your giving me information on friction losses in 2½-inch hose equipped with 1-inch nozzle.

L. W.

Answer: Friction loss in fire hose varies approximately as the square of the velocity of the flow. If the flow is doubled, the friction loss is approximately four times as much.

The flow, in turn, depends upon the nozzle diameter and nozzle pressure. The greater the diameter, or the greater the nozzle pressure, the greater will be the discharge, or flow.

For your information, we are giving below a table of friction losses in 2½-inch hose fitted with 1-inch nozzle for various nozzle pressures.

Nozzle Pressure	Flow (or Dis.) in G.P.M.	Approx. F.L. per 100 feet of 2½-inch hose
20	132	5 lbs.
30	162	8 lbs.
40	187	10 lbs.
45	198	11 lbs.
50	209	12 lbs.
55	219	13 lbs.
60	229	15 lbs.
65	238	16 lbs.
70	247	17 lbs.
75	256	18 lbs.
80	264	19 lbs.

Volume vs. Pressure

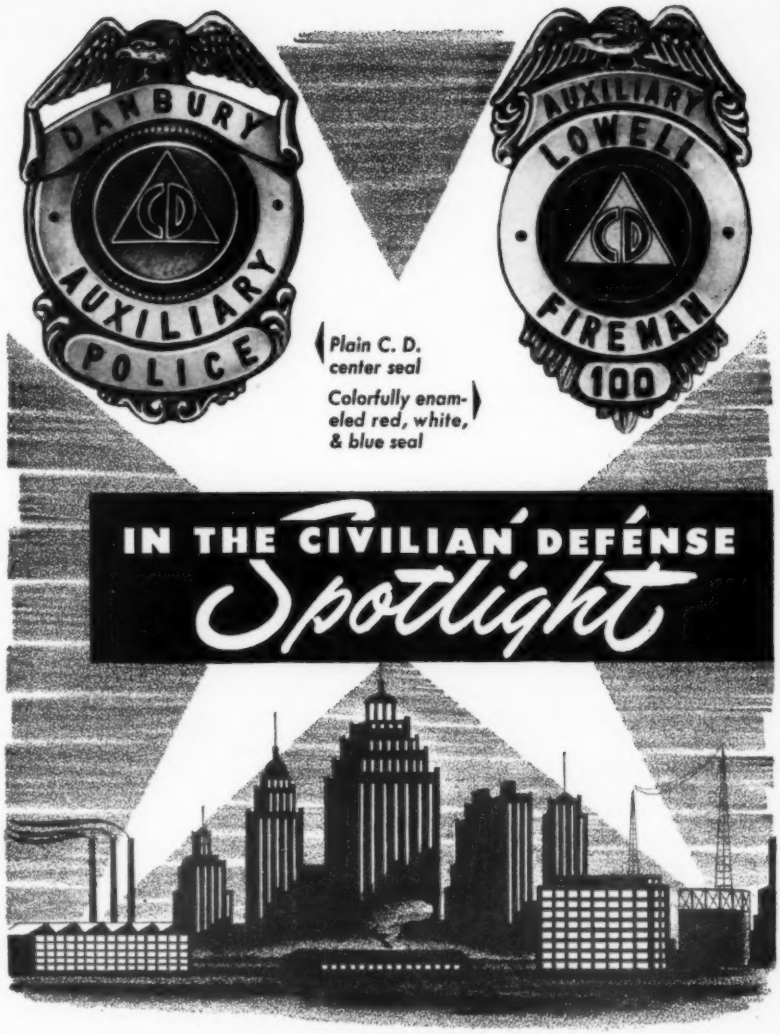
To the Editor:

I would appreciate your explaining the statement, "Of volume and pressure in the use of fire stream, pressure is usually the most important factor."

N. L. K.

Answer: In fire fighting operations it is necessary to have pressure to deliver the water on to the burning materials. No matter what flow you have, unless you have pressure, effective work cannot be done.

You will appreciate that a pump which might deliver, for example, 10,000 gallons per minute at 25 pounds pump pressure would be of far less value in operating on a fire than one which might deliver 200 gallons per minute at 100 pounds pump pressure.



How about your city or town—are you making plans for Civilian Defense?

WHY has Blackinton been called upon to supply thousands of badges for auxiliary policemen and firemen recently recruited for Civil Defense duties throughout the United States.

THE REASONS ARE SIMPLE: (1) Blackinton has available hundreds of Civilian Defense badge designs, each one a distinctive gem of badge craftsmanship. (2) Blackinton is the oldest insignia manufacturer in the Country — 100 years' experience, that's proof enough. (3) Blackinton is known for the best in service, style, and quality.

Be sure to specify BLACKINTON when ordering badges.

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V. H. BLACKINTON & CO., INC., ATTLEBORO FALLS, MASS.

Blackinton Badges are furnished nationally through responsible fire and police equipment suppliers as well as leading uniform manufacturers.

Persons in the News

L. A. County Chief Spence Turner Retires

After 32 years of service with the county of Los Angeles as County Forester and Fire Warden and Chief of the County Fire Protection Districts, Chief Spence D. Turner retired on April 14, 1952.

He joined the department as an assistant in charge of Fire Control, and became Chief Assistant in 1922, at which time there were no Fire Protection Districts in the County and no organized fire protection outside of incorporated cities, with the exception of a few volunteer departments. Men were drafted from the streets to fight the brush and forest fires.

Chief Turner was instrumental in securing legislation which permitted formation of the present Fire Protection Districts. In July 1925, he became County Forester and Fire Warden and Chief Engineer of the County Fire Protection Districts, which post he held until his retirement. Under his administration the department grew from a handfull of men with pratically no equipment to the greatest County fire agency in the nation. The organization now comprises over 1300 employees who, with its 80-well-equipped fire stations, protect 2,275.21 square miles area. It has its own County-owned telephone system, and four radio broadcasting stations by which operation of the entire department is controlled.

In 1941, Chief Turner was appointed County Coordinator for Los Angeles County in connection with the Statewide Civil Defense Plan for emergency fire protection. In 1943 he was made

Spence D. Turner

Regional Fire Coordinator for Region 9, comprising Los Angeles and Orange Counties. He was also a member of Governor Warren's State Fire Advisory Committee to the California Office of Civil Defense and also a member of the State Fire Marshal Advisory Board and the California Fire Protection Committee and California Forest and Range Experiment Station Advisory Committee. Chief Turner is also past-president of the California Rural Fire Association and the Southern California Foresters and Fire Wardens Association.

Succeeding Chief Turner is Cecil Gehr, who was named by the Supervisors on a temporary basis pending Civil Service examinations. He joined the department in 1924.

Chief Gehr for seventeen years served as chief of Battalion 5 in the Malibu Mountain area. He was promoted to assistant chief in 1949.

John A. Neale Honored

John A. Neale, chief engineer of the National Board of Fire Underwriters, has been elected and initiated into Tau Beta Pi, national engineering honor society, in ceremonies held by Massachusetts Delta chapter of the fraternity at Tufts College, Medford, Mass.

Mr. Neale, an alumnus of Tufts College, was elected for attainments in the field of engineering.

He has had a long and prominent career in the field of fire protection engineering, having served with the Associated Factory Mutual fire insurance companies, the Tennessee Inspection Bureau, as chief engineer of the Chicago Board of Underwriters, and chief engineer of Underwriters Laboratories Inc. which he joined in 1924.

Mr. Neale has been chief engineer of the National Board of Fire Underwriters since March 1950, in charge of all the fire protection surveys of cities, engineering standards, research work and building code developments conducted by the stock fire insurance companies through the National Board.

EMERGENCY FLOODLIGHT TRUCKS

All Steel Enclosed

Deluxe CUSTOM BUILT EQUIPMENT

With or Without the Floodlighting Feature

THE SENIOR
(3 ton Chassis, 175" Wheel Base, 162 H.P.)

THE SENIOR SPECIAL
(5 ton Chassis, 201" Wheel Base, 200 H.P.)

THE STANDARD
(2½ ton Chassis, 158" Wheel Base, 143 H.P.)

THE X-L ECONOMY UNIT
(1½ ton Chassis, 158" Wheel Base, 108 H.P.)

All Models carry First Aid and Salvage Equipment as required by the customer.

The SENIOR MODEL—is equipped with exterior and interior compartments, stretchers, and seats for the crew. Five built for the City of New York; one with portable floodlighting equipment and four with 10 KW power takeoff driven generator and elevator controlled floodlights. Four built for the City of Philadelphia, Pa., one for Mount Vernon, N. Y., all with 10 KW generator and controlled floodlights.

The STANDARD MODEL—equipped same as above. This model in service in many Fire Departments for over 10 years.

The X-L MODEL—provides average facilities and portable generator and floodlights at minimum cost.

We can arrange to have you inspect these trucks. . . . We invite you to see the designs of our new SENIOR SPECIAL, now building for Rockville Centre and the City of Syracuse, N. Y.— the last word in Emergency Trucks.

Write us stating your requirements

APPROVED FIRE EQUIPMENT CO.
ROCKVILLE CENTRE • NEW YORK

Obituaries

Former Commissioner Goode

Dr. George W. Goode, noted Hub osteopath and former fire commissioner of Brookline, Mass., died April 27 last, aged 82. He was a great friend of New England fire fighters and a staunch supporter of the late Selden R. Allen. He was a member of the Massachusetts Fire Chiefs Club.

Former Chief Leeds

Former Atlantic City, N.J., Fire Chief Joseph H. Leeds died in April, aged 66, after several years' illness.

Chief Leeds, a picturesque fire fighter, retired in 1942 after 25 years in the department, 13 of them as chief. He was appointed fireman in 1907, lieutenant in 1912, captain in 1916, battalion chief in 1921, deputy chief in 1925 and made chief in 1929. In his early days, Leeds was a prospect for major league baseball.

With Our Readers

Report from Guayaquil, Ecuador

To the Editor: The fire protection service of Guayaquil, Ecuador, S.A., is a very unique one. It is a semi-autonomous volunteer organization of considerable efficiency. There are a large number of stations which are constantly manned, and firemen are on their way with their equipment very promptly on receipt of an alarm.

The Cuerpo de Bomberos (department to you) maintains its own pumping station, its own series of four elevated steel tanks on Cerro Santa Ana, its own pipe network and all the fire hydrants in the city. Equipment is practically all on Fords. There are also some fire-fighting boats, or ships.

The department is organized in a military manner. The Chief is Coronel Julius Caesar Rumbea. There are several battalion organizations.

I have been much impressed with the efficiency of the Guayaquil Fire Department. In view of the highly combustible nature of much of the poorer part of the city, this is very necessary. Many buildings are largely walled with split bamboo, and lightly built. In view of the mildness of the climate and the necessity for ventilation, this construction is well adapted to local needs. But it burns like tinder if ignited. The city also has many large new structures of reinforced concrete.

Sincerely,
COL. JACK J. HINMAN, JR.

Blaze Claims Nine Indian Children

Ten members of two Indian families, nine of them children, died with the mother of four of them in a fire that destroyed their tiny home near Tahlequah, Okla. on May 23rd. The fire was caused by lightning.

The husband and one remaining child also were critically burned after he broke a window to escape from the burning house, carrying the small baby with him to safety, but nothing could be done to save the others.

DEPENDABLE DRESSINGS

for FIRST AID, for EMERGENCY
for DISASTER, for DEFENSE

With a distinguished record of use by the medical services of the Armed Forces, by other governmental agencies, by hospitals, by emergency and disaster units, by industrial clinics and first-aid stations . . .

. . . always STERILE, always READY for immediate and easy application to dress a burn, an abrasion, and other surface injuries.

VASELINE STERILE PETROLATUM GAUZE DRESSINGS

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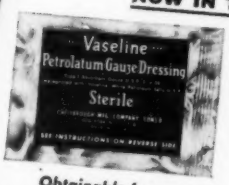

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have been adopted by surgeons as standard procedure, by nurses as preferred matériel, by professionally-trained aid personnel as the compact, ready-made, ready-to-apply dressing of their choice.

Specify these superior dressings in the foil-envelopes to your supplier.

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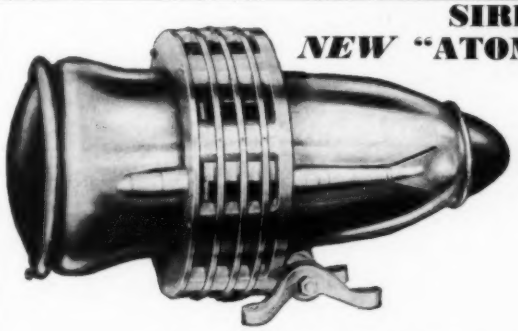
NEW "ATOMIC ROCKET"



The Largest and Most Powerful Vehicle Siren with 360 Degree Flashing Red Lights.

Complete Range of Sizes and Styles and Mounting.

WRITE DEPT. No. 27 FOR FREE CATALOG

SIRENO COMPANY INC.
214 WILLIAM STREET *Established 1908* New York 38, N. Y.

Coiled Rope Fire Escapes Bow Out

It won't be long, in New York State at least before the old coiled rope "fire escape" that graced, or disgraced, the resort hotels of the State for so many years, will join the horse and buggy as a museum piece.

Resort hotel proprietors in the Catskills, at Saratoga, and in the Adirondacks are now weighing steps they must take to replace this traditional fire safety device before July 1, 1952, at which time the State's amended multiple residence law becomes effective. Under its provisions, every dwelling of three stories or more must have "at least two means of egress" with the rope fire escape no longer acceptable as one. If the interpretation under the code permits, some may keep the coiled ropes as a third emergency measure.

It is said that the coiled rope has been used as a means of escaping from fire for centuries, but it was in 1887 that the state legislated the device. That version of the law, which was repealed by the 1952 legislature, regulated the size, location and availability of the ropes.

The law required that the ropes "be securely fastened into joists or timbers next adjoining a frame of a window" of each room and "shall be at all times coiled up and exposed to the plain view of any occupant, the coils to be fastened in such a slight manner as to be easily and quickly uncoiled." The law also required the rope to be of sufficient strength to hold a weight of 400 pounds.

The EXTRA OUNCE of prevention in Rescue Cars

The Rescue Car or Emergency Unit cannot prevent accidents or disasters but when it is well planned to meet its special requirements and responsibilities it can do a lot to prevent some of the deadly consequences.

A Gerstenslager Rescue Car, individually designed and built to your specifications, gives you that extra ounce of prevention which comes from incorporating your own specialized knowledge and experience into your rescue equipment.

A member of our nationwide staff of field sales engineers will help you to get exactly the design and construction for your safety department's needs.

THE GERSTENSLAGER COMPANY

WOOSTER, OHIO

Established 1860

Ohio Fire School Sept. 2-5

The Ohio State Fire School will be held this year at Ohio State University from September 2 to 5. The School will be sponsored by the Ohio State University and the Division of State Fire Marshal. Many noted authorities on fire prevention and protection will appear on the program. The Columbus Fire Department and the Franklin County Fire Fighters Association will assist in hose evolutions, ladder demonstrations, rescue work, use of gas masks, salvage and oil fire extinguishment which will be a part of the school this year. Instructors' courses with successful participants being awarded an instructors certificate will again be a feature of the school. The newest films relative to fire fighting and fire safety will be shown in the evening. Fire department personnel as well as industrial and insurance fire preventionists are urged to attend. Further information can be obtained by contacting Foss H. Gragg, Assistant Director, Division of State Fire Marshal, Columbus 15, Ohio.

News of the Manufacturers

A. J. Gilleo Retires from Eureka Fire Hose

The Eureka Fire Hose Division of United States Rubber Company has announced the retirement of A. J. (Jack) Gilleo as Manager of their Detroit Office, a post he has held for the past twenty years. His retirement climaxes a career of more than thirty years in the fire hose and equipment business.

A. J. Gilleo

During his busy career, he has found time for active membership and work in the Michigan Fire Chiefs Association, and is a member of the International Association of Fire Chiefs.

He is being succeeded by Stuart J. Spalding, who has been connected with the Detroit Office for the past five years.

SAFA Opens Western Office

The Superior American Fire Alarm and Signal Co., of Meriden, Conn., has recently announced the opening of a Western States office at 7827 Melrose Avenue, Los Angeles, Calif.

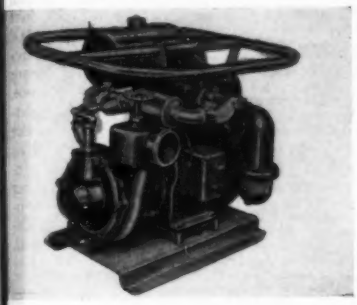
The new office will distribute and service the complete line of SAFA fire alarm equipment in Arizona, Colorado, Montana, New Mexico, Utah, Wyoming, California, Idaho, Nevada, Oregon and Washington.

All activities will be under the immediate direction of Al. Theurich, as

les Manager. Mr. Theurich served many years as Fire Alarm Superintendent at Pasadena, Calif.

ew American-Marsh Portable Pump

Greater capacity and lighter weight e two of the improvements announced American-Marsh Pumps, Inc., for eir model 3XD auxiliary booster mp. This portable pump is widely ed in rural areas and is suitable for il defense purposes.



iliary booster pump built by American-Marsh Pumps, Inc.

The lighter weight means easier ying. From stream, pond or cistern, 3XD will deliver sufficient water the pumper to supply, under normal nditions, two 1½-in. hose lines, using in. nozzles or one 1½ in. line using ¼ in. nozzle.

Pump construction permits handling ty water without danger of serious mage, it is said. An improved exust type primer makes the use of iming water unnecessary and elimites the possibility of freezing.

Bulletin 8120, describing this unit, is ilable from American-Marsh Pumps, c., Battle Creek, Mich.

Length of Maxim-Magirus Aerial Truck

In the May, 1952, issue of this journal, ge 351, a description of the new Max-Magirus aerial ladder was published. The article stated that "with a wheelse of 230 feet and an overall length of feet 6 inches, the unit is highly aneuverable in short and narrow reets."

The figure "230 feet" is in error. The eelbase length is 230 inches, not feet. e editors wish to express their apeciation to the host of readers who covered the error and promptly called ention to it.

A.F.C. Conference Exhibitors

Chief L. C. Canning, Midvale, Utah, airman of the Exhibit Committee of International Association of Fire iefs to be held at Boston, Mass., gust 25-28, reports the signing up of additional exhibitors since the pubation of the second list of twenty-ee in the May issue of FIRE GINEERING.

Thus fifty-one exhibitors have already ttracted for space at Boston. Only en booths still remain unsold.

These five exhibitors include:
Walter G. Legge Co., New York, N. Y.
Link Radio Corp., New York, N. Y.
Safety First Products Corp., Elmsford, N. Y.
Good Machinery & Chemical Co. (John Bean Division), Lansing, Mich.
Jack Manufacturing Corp., New York, N. Y.

Actually, we have no records of kangaroos using Ansul Extinguishers . . . but we know children of grade-school age can use them effectively. Ease of operation and near-expert results by inexperienced operators have influenced many large companies to standardize on Ansul Equipment.

Ansul Extinguishers are also easy to recharge and maintain. They may be recharged at the scene of the fire without using any tools . . . not even a screwdriver or wrench is needed. Water-tight construction and corrosion resistant construction assure long life with a minimum of repairs.

SEE PAGES 400-401

Fight Brush Fires From Moving Truck with a Hale Type FZZ

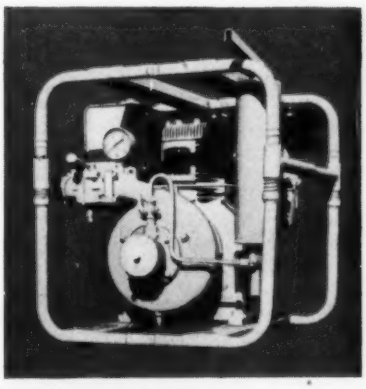
PORTABLE PUMPING UNIT!

Picture below shows fire-fighter handling stream from a Hale Type FZZ Portable Pumping Unit mounted on a moving truck. An FZZ can be mounted permanently on truck or carried as a portable unit for pumping into or *from* booster tank. This portable arrangement is extremely useful both for fighting brush, field or forest fires while in motion; or for pumping from pond, stream or well direct.

An FZZ will supply from draft, 60 U. S. Gallons per minute at 90 lbs. pump pressure and up to 150 U. S. Gallons per minute at 30 lbs. It can supply two capable fire streams through 1¼" hose lines using nozzle tips up to ⅞".

A frame-mounted FZZ (with carrying handles turned in) is pictured at right. Unit is also available mounted on two wheels or on rubber-cushioned steel channels.

**Write today for new FZZ Folder.*
Let us know if you want a demonstration.



HALE FIRE PUMP CO.
Conshohocken, Pa.

Fire Pumps in All Standard Capacities

Nip Brush Fires in the Bud with a HALE FZZ

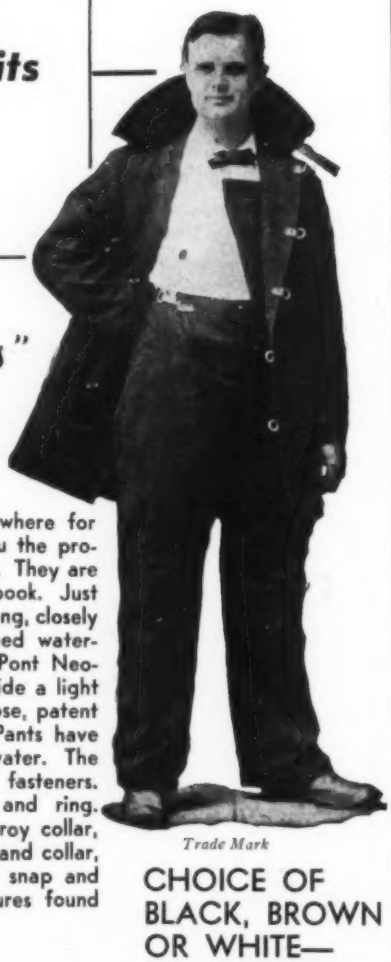
What's Burning?

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of May, 1952.

Month Ending May 31, 1952

Montgomery, Ala.—Capitol Heights Church destroyed. Lightning.
Earle, Ark.—Emco Mills plt. damaged.
Little Rock, Ark.—Sawmill of Bruce Lumber Co. destroyed.
Little Rock, Ark.—Albert Pike Memorial Masonic Temple destroyed.
Altadena, Cal.—W. A. Scripps mansion damaged.
Belmont, Cal.—William Wallace whse. damaged.
Burbank, Cal.—Warner Bros. film studio damaged.
Fresno, Cal.—Friendly Eagle war surplus store destroyed.
Los Angeles, Cal.—Kaiser Bros. Oldsmobile garage destroyed.
Madera, Cal.—Marinelli Olive plt. damaged.
San Carlos, Cal.—Oliver & Sons Lumber Co. mill destroyed.
Oakland, Cal.—American Brass & Iron Foundry damaged.
Sacramento, Cal.—McClellan Air Force Base post exchange damaged.
Taft, Cal.—Taft Labor Temple, B. & B. Smoke Shop, O. K. Barber Shop and Watkings Flower Shop, damaged.
Uk'ah, Cal.—Fong Lumber Co. Low Gap mill damaged.
Durango, Colo.—J. Stanley Weldman sawmill damaged.
Derby, Conn.—Derby's municipal incinerator damaged.
Milford, Conn.—Arnold College dormitory damaged.
Washington, D. C.—Showroom of Malcolm Scates, Inc., furniture store, destroyed. Short circuit.
Orlando, Fla.—W. C. Champion Packing Co. plt. destroyed.
Charleston, Ill.—Alexander dept. store dama Lightning.
Chelsea, Mass.—Massachusetts National G Armory damaged.
Chicago, Ill.—Whse. owned by Ricci & Co., importers, occupied by Cooperative Bag Insurance Press and Pecan Shellers damaged.
Mount Pulaski, Ill.—Fred Holmes garage adj. Shrader bldg. housing office of Ce Illinois Electric & Gas Co., Leonard shop, Liesman Barber Shop and former H office, destroyed.
Elkhart, Ind.—Dunlap Electric & Plumbing destroyed. Sparks.
Fort Wayne, Ind.—Livestock bldg. of Wayne Union Stockyards destroyed.
Hammond, Ind.—A. H. McGrew Lumber damaged.
Indianapolis, Ind.—Bldg. housing the Furniture Co. and the Todges Auction & age Co.; adj. bldgs. occupied by Burro Adding Machine Co. and the C. H. Wall Co. damaged.
Lowell, Ind.—Thirty derailed freight smashed the Lowell station and resulting from gasoline, fuel oil and alcohol destroye
Rockville, Ind.—Ferguson Woodworking destroyed.
Bettendorf, Ia.—J. I. Case Co. foundry damaged. Sparks.
Cedar Rapids, Ia.—Sutton Appliance tailor shop and women's apparel shop troyed, and eight other stores damaged.
Clarinda, Ia.—Bldg. owned by W. G. D housing Allen Harris Bowling Alley, of Dr. Willard Keuhn and Smodderly Co. damaged.
Des Moines, Ia.—Barco Chemical Co. damaged. Presure built up by a che reaction in a vacuum kettle.
Spencer, Ia.—Bldg. housing Leach and Th son hardware store destroyed.
Gretna, La.—The tug Rebel Warrior dam by explosion while discharging 750,000 g of gasoline from two of its three barg the Gulf Refining dock which is located the Mississippi River from New Orleans.
Watertown, Mass.—Terminal and trucks of Hinds Trucking Co., Inc., damaged.
Barryton, Mich.—Store of Barryton Co-O tive Association Inc., damaged.
Detroit, Mich.—The three-story brick m plt. of the F. M. Sibley Lumber Co. dest
Detroit, Mich.—Bldg. on E. Jefferson av., ing a bowling alley and several shops troyed.
Detroit, Mich.—East Side Lumber yard plant destroyed.
Ontonagan, Mich.—Ascension Episcopal C and adj. rectory, destroyed. Lightning.
Brainerd, Minn.—Voss Farm Supply offic whse. and Fred Wals realty office, dest Welding torch.
St. Paul, Minn.—Monterey-Minn-Tri-Mont Packing Co. bldg. destroyed.
St. Paul, Minn.—Mohawk Theatre damage
Hawthorne, N. J.—Samuel Braen Co. c plant destroyed. Short circuit.
Keyport, N. J.—Nord & Co. Inc., chemica destroyed. Explosion.
Madison, N. J.—St. Vincent's Church dam
Woodbury, N. J.—Four whses. at Hel Lumber Co. destroyed. Explosion.
Gloversville, N. Y.—The two-story wooden ture of the Thorne Lumber Co. destroye
Greenport, N. Y.—Men's shop, five-and-te store and Peoples National Bank damag
Homer, N. Y.—The Durkee Bakery dam
Rochester, N. Y.—Four bldgs. of Flower Carting Co. destroyed. Explosion.
West Brighton, S. I., N. Y.—Mark W. Lumber Co. destroyed.
Benson, N. C.—Benson Lumber Co., south on U. S. 301, destroyed.
Englehard, N. C.—R. L. Gibbs & Co. p and elevator business destroyed.
Leaksville, N. C.—Blue Ridge Furniture destroyed.
Pink Hill, N. C.—Farm Implement whse combination appliance store-launderette troyed.
Mandan, N. Dak.—Blue Ribbon Hatcher troyed.
Canton, Ohio—Physicians Pharmacy dest
Cleveland, Ohio—Monarch Furniture Co troyed. Defective wiring.
Lexington, Ohio—Soy Products Co. plt. aged.
Lorain, Ohio—The Coliseum, a dance ha roller skating rink, destroyed.
Milton Center, Ohio—High and grade destroyed.
Wauseon, Ohio—Penrod Mortuary, a bldg. and garage, destroyed.
Ardmore, Okla.—B. L. Owens furniture Arcade beer tavern and adj. whse., des
Corvallis, Ore.—Chapman Hardwood M damaged. Overheated kilns.
Dallas, Ore.—Gail Hotel destroyed.
Merrill, Ore.—Farm home of Louis Ly troyed.
Vale, Ore.—Western Auto store of Ole destroyed.
Bridgeport, Pa.—Whse. at DeKalb and

When you invest in quick-hitch suits buy the BEST— buy GLOBE!



"The Suit That Suits"

The choice of Fire Fighters everywhere for over 50 years. GLOBE SUITS give you the protection you need against heat and cold. They are easy to wear and easy on the pocketbook. Just note and remember these features. Strong, closely woven army duck outside, a guaranteed waterproof interlining made with 100% DuPont Neoprene next to that, and next to your hide a light weight or warm wool lining as you choose, patent pocket corner stays that can't tear. Pants have the original "Cross-fly" to keep out water. The two hip pockets have pocket laps and fasteners. The GLOBE "Quick-Hitch" is snap and ring. Coats have a 5-inch Hockmeyer corduroy collar, storm-flap, strap and buckle on sleeves and collar, two pockets with overflaps and snaps, snap and ring fastenings, and many other features found only in GLOBE SUITS.

Trade Mark

CHOICE OF BLACK, BROWN OR WHITE— SAME PRICE

See your dealer or write

GLOBE MFG. CO., PITTSFIELD, N. H.

Globe DURABLE FIREMEN'S Suits

Streets, leased to Philadelphia Textile Finishers, Inc., damaged.
Chambersburg, Pa.—Garage and seven buses of Couchman Transit Co., destroyed.
Devon, Pa.—Stable at Devon Horse Show grounds destroyed.
McKee Rocks, Pa.—Plt. of American-Fort Pitt Spring Division of H. K. Porter Co. damaged.
Philadelphia, Pa.—Motor Ignition Co. bldg. damaged.
Reading, Pa.—Bldg. of All-Brite Light Co. destroyed.
South Greensburg, Pa.—Westmoreland Clay Products Co. machine room, destroyed.
Steelton, Pa.—Bldg. of Steelton Lodge No. 382, Loyal Order of Moose, damaged.
Columbia, S. C.—"Arcade" tenement house destroyed.
Greenville, S. C.—Kash & Karry Wholesale Grocery Co. whse. and Textile Whse. Co., Inc. damaged.
Chattanooga, Tenn.—Key-James Brick Co. plt. in Alton Park, destroyed.
Dayton, Tenn.—Main whse. of Hunt Heater Corp. damaged. Electric lamp explosion.
Alvarado, Tex.—Alvarado High School destroyed. Lightning.
Corpus Christi, Tex.—General American Tank Storage Co.'s main kerosene tank, several other tanks filled with oil, and two-story office bldg., destroyed.
Corsicana, Tex.—Thirty-five cars of a 62-car derailed freight train of Fort Worth & Denver, destroyed near here.
Houston, Tex.—Eastern States Petroleum Co.'s Ship Channel refinery damaged.
Lufkin, Tex.—Lufkin Pine Lumber Co. plt. damaged.
Marbourville, Va.—"Piedmont Manor," owned by H. W. Friend, State Route 20, destroyed. Cigarette.
Richmond, Va.—Woodworking plt. leased to Modern Woodwork Specialty Co., Byrd Field, Henrico County, destroyed. Explosion.
South Hill, Va.—South Hill High School destroyed.
Bellingham, Wash.—P. J. Lee grocery destroyed. Defective oil furnace.
Randle, Wash.—Randle Veneer Co. destroyed. Broken fuel line.
Vancouver, Wash.—Clark County Lumber Co. plt. destroyed.
Madison, W. Va.—Coal washing plant owned by Dorothy Gordon Mining Co., 14 miles southeast, destroyed.
Milwaukee, Wis.—Whse. destroyed and three-story brick light mfg. plt. of Netzow Estate damaged. Children playing with matches. Tenants in plt. and using whse. space include Joseph Dudenhofer Co. winery; Neopak Co.; Wagner & Boehk Co.; Peters Engineering Co.; Ernie Art Products; Everett Chemical Co.; Frederick Display Advertising Co.; A. C. Kruger Construction Co.; Mold-Craft Co., and Tri-Tix, Inc.
Antigonish, N. S.—Two stores in business district destroyed.
Blind River, Ont.—Town Hall destroyed.
Buck's Falls, Ont.—Thomason-Heyland Lumber Co. yard destroyed.
Huntsville, Ont.—Royal Muskoka Hotel destroyed.
Kitchener, Ont.—Half block factory of Dominion Electro Line Industries, Ltd., mfrs. of radio and furniture, destroyed.
North Bay, Ont.—Terminal of Deluxe Transportation Ltd. and dwelling of Peter Ceresia, destroyed. Short circuit.
Ottawa, Ont.—Canadian National Railways bldg. damaged.
Owen Sound, Ont.—Owen Sound School destroyed.
Picton, Ont.—Collegiate Institute destroyed.
Toronto, Ont.—Welsh Lumber Co.'s yards damaged.
Wallaceburg, Ont.—Ten storage whses. of Dominion Glass Co., Ltd., with cartons of glassware and empty cardboard packing cases, destroyed.
Loretteville, Que.—Slipper factory, operated by Renaud Bastien and Jean Paul Laine, Huron Indian village, destroyed.
Montreal, Que.—Mansion of Allan McMartin, near Seigniory Club, Montebello, destroyed.
Cordova, Alaska—Ellamar Packing Co. cannery of Prince William Sound destroyed.
Seward, Alaska—Safeway Airlines hangar destroyed and three planes damaged.

New York State

(*Continued from page* 438)

Coordinator. FIRE ENGINEERING was represented by Chief Roi B. Woolley, Assistant Editor.

Sessions during the week were so arranged that the instructors, in small groups, were given intensive training in all fundamental evolutions as well as special operations, such as use of life net, relay-layouts, pumping tactics, etc.

ONAN
Emergency Electric Plants for Civil Defense

No matter what happens to central station power during a bombing attack, electricity for essential defense needs is always available with Onan Electric Plants. Onan units, mounted on truck or trailer, or carried in the trunk of a car, can be rushed to any point where power and light are needed. Sturdy and dependable, Onan Electric Plants are an important link in a city's defense against disasters of any kind.

Power & Light for Every Need

Portable, Mobile, or Stationary
400 to 35,000 watts. A.C. or D.C. models.

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Onan PRODUCTS

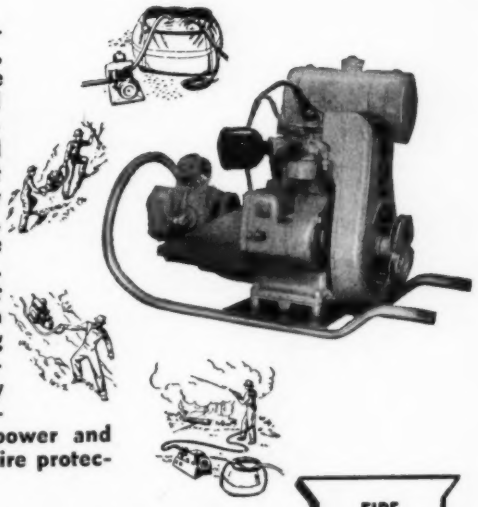
D. W. ONAN & SONS INC.

5695 UNIVERSITY AVE., MINNEAPOLIS, MINN.

PACIFIC PUMPERS

AMERICA'S NO. 1 PORTABLE FIRE-FIGHTERS

The sure-starting WA-7, newest of the famous Pacific Pumpers and already an outstanding success in both private and public forest use, is light enough to be carried by hand to source of water, booster tank location, or fire area. It delivers 22 g.p.m. at 50 p.s.i. or 14 g.p.m. at 300 p.s.i., throws a high pressure fog for smothering tactics. Self-priming, positive displacement rotary pump, driven by 4-cycle air-cooled engine, gives you power and portability that mean real fire protection over a wide area.



Write for data on complete line of Pacific Pumpers, hose, accessories.

PACIFIC MARINE SUPPLY CO.
SEATTLE 1, WASHINGTON

FIRE EQUIPMENT DIVISION

The enrollees organization known as the 1952 Class of State Fire Instructors, elected as President Deputy Chief Ambrose Foos of the Rochester Fire Department. Chief Foos was one of the "instructors of the instructors" during the week-long period.

Coincidental with the Annual Training Conference, the members of New York State Fire Advisory Board helped launch the conference with a full day meeting Monday, May 5 at the Hotel Mark Twain. In the absence of Chief Rudolph Swanson, President of the International Association of Fire Chiefs, and Chairman of the Board, who was in Puerto Rico, Chief Roi Wooley, Vice-Chairman, conducted the meeting, which passed a number of important resolutions.

The more detailed story of New York's firemen's training and mutual aid developments will be a highlight of the forthcoming International Association of Fire Chief's Conference in Boston, August 25-28.

Los Angeles Department Complete First Three of Ten Training Films

The Los Angeles Fire Department has just completed three of a series of ten basic operational fire personnel training films designed primarily to better acquaint new members of the department with the proper handling of fire fighting equipment.

These three 16 mm. sound, black-and-white films are titled: "Hose," "Ladders", and "Hose Lays With Two Piece Companies." They are reported by Claude A. Conlin, Jr., Captain, Photography and Publicity, Los Angeles Fire Department, to be available to other fire departments. The purchase price of each is $50, plus mailing charges. Loan or rental copies are not available.

All inquires concerning these films should be directed to Cinesound Company, 5968 Santa Monica Blvd., Hollywood 38, California.

Chief Engineer John H. Alderson of the Department of Fire, Los Angeles through whose offices these latest additions to the already huge library of educational and training films were prepared, states that it is the sincere belief of his organization that these films can be used to excellent advantage in the training of volunteer firemen, plant fire brigades, and the like.

Four Die When Ancient Hotel Burns

Four persons died, four others were injured and 23 narrowly escaped death when the ancient Dutton Hotel in Bingham, Maine, burned.

The fire, one of the worst in Somerset County's history, roared through the tinder-dry 4-story wooden 130-year-old hotel early on a March morning. The victims, all of whom lived on the third floor, had little hope of escape. Bodies of three of the permanent residents, two women aged 76 and 68 respectively and one man, aged 80 were found in smoke-filled third floor corridors. The fourth victim, a 65-year old man, died in a Skowhegan hospital. Most of the injuries were sustained in jumping from upper windows, and from burns.

Mrs. Louis Dutton, owner of the old building, was awakened by cries of tenants about 2:15 A.M. She discovered fire raging on the ground floor, centering around the telephone booth in the lobby. Investigators were unable to determine the cause of the blaze, which quickly cut off the single stairway to the upper floors, and all egress for the occupants. The structure reportedly had no fire escapes.

Firemen from Skowhegan under Chief Walter Thornhill, traveled 33 miles to aid the volunteers of Bingham, leaving their quarters at 2:53 A.M. They arrived at 3:25 A.M., after negotiating highway in poor condition, and remained in service until 10:00 A.M.

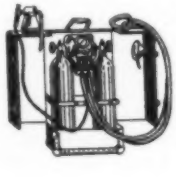
Firemen found the building well involved upon their arrival and sent to Skowhegan for aid, meanwhile attempting to rescue as many of the tenants as could be reached with their limited ladder facilities.

How many "Yes" answers can YOU give to these questions?

1. Has your Department a Resuscitator?
2. Does it operate automatically?
3. Is it the "push and pull" type?
4. Can you drop the pressures when the patient has broken ribs?
5. Can you take the patient gradually from oxygen back to air?

If your answer to any of these questions is "no," then you will be interested in the help we can give you.

Write us today!



STEPHENSON CORPORATION
RED BANK NEW JERSEY

Convention Dates

June 19-21—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Newburgh, N. Y. Secretary, Charles M. Falk, 92 Clove Avenue, Haverstraw, N. Y.

June 23-24—NEW MEXICO STATE FIREMEN'S ASSOCIATION. Annual meeting, Clayton, N. M. Secretary-Treasurer, F. W. Wynn, Hobbs, N. M.

June 23-25—TENNESSEE FIREMEN'S ASSOCIATION. Annual meeting, Johnson City, Tenn. For information, contact Chief L. Geisler, Johnson City Fire Department, Johnson City, Tenn.

June 23-26—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. Annual meeting, Hotel Wentworth, Portsmouth, N. H. Secretary-Treasurer, John W. O'Hearn, 206 Mt. Auburn Street, Watertown, Mass.

June 23-27—FLORIDA STATE FIRE COLLEGE. Units 106, 107, 205. For information contact Chief W. H. Barnett, P. O. Box 7[illegible], Ocala, Fla., Superintendent.

Convention Dates

June 25—FAIRFIELD COUNTY FIRE CHIEFS EMERGENCY PLAN. Monthly meeting. Secretary, Lt. Anthony Gorminaro, 26 Hill Ridge, Danbury, Conn.

Jnue 25-27—MARYLAND STATE FIREMEN'S ASSOCIATION. Annual meeting, Ocean City, Md. Secretary, Ted C. Gardner, 6313 59th Avenue, Riverdale Heights, Md.

June 26-28—SOUTHERN NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Greenport, L. I., N. Y. Secretary, Calvin V. Zier, 630 6th Avenue, New Hyde Park, N. Y.

July 9—NEBRASKA ASSOCIATION OF FIRE FIGHTERS. Annual meeting, Fremont, Neb. Secretary-Treasurer, Warren F. Kensinger, 114 West 4th Street, Grand Island, Neb.

July 14-16—WISCONSIN STATE FIRE CHIEFS ASSOCIATION. Annual meeting, Beaver Dam, Wis. Secretary-Treasurer, Douglas J. Dunlop, Chief of Fire Department, Wauwatosa 13, Wis.

July 21-25—WEST VIRGINIA FIRE SCHOOL. Annual meeting, Morgantown, W. Va. For further information, contact R. E. Hanna, Jr., Director Fire Service Extension Schools, West Virginia University, School of Mines, Morgantown, W. Va.

Aug. 4-7—NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. Annual meeting, Greensboro, N. C. For information contact Chief C. W. Wyrick, Greensboro, N. C., Fire Department.

Aug. 4-8—PENNSYLVANIA FIRE SCHOOL. Annual meeting, Lewistown, Pa. For information, write Edgar A. Spotz, Public Service Institute, P. O. Box 911, Harrisburg, Pa.

Aug. 4-8—FLORIDA STATE FIRE COLLEGE. Units 101, 102, 201. For information contact Chief W. H. Barnett, P. O. Box 785, Ocala, Fla., Superintendent.

Aug. 5-8—IOWA FIRE DEPARTMENT INSPECTORS SCHOOL. Annual meeting, Iowa State College of Agricultural and Mechanical Arts, Ames, Ia. For information contact the Engineering Extension Service, Firemanship Training Division, Iowa State College, Ames.

Aug. 11-15—FLORIDA STATE FIRE COLLEGE. Units 101, 102, 202. For information contact Chief W. H. Barnett, P. O. Box 785, Ocala, Fla., Superintendent.

Aug. 11-15—INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS. Annual meeting, Seattle, Wash. Secretary-Treasurer, George J. Richardson, A. F. of L. Building, Washington, D. C.

Aug. 18-22—FLORIDA STATE FIRE COLLEGE. Units 104, 105, 203. For information contact Chief W. H. Barnett, P. O. Box 785, Ocala, Fla., Superintendent.

Aug. 18-22—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. Annual meeting, East Rochester, N. Y. Secretary, Eugene M. Braun, 4025 Main Street, Buffalo 21, N. Y.

Aug. 25-28—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual meeting, Boston, Mass. Secretary-Treasurer, Daniel B. Tierney, 8 Robbins Road, Arlington 74, Mass. Headquarters Manager, J. E. Jagger, Hotel Martinique, Broadway and 32nd St., New York, N. Y.

Aug. 25-29—FLORIDA STATE FIRE COLLEGE. Units 104, 105, 204. For information contact Chief W. H. Barnett, P. O. Box 785, Ocala, Fla., Superintendent.

Aug. 31-Sept. 4—DOMINION ASSOCIATION OF FIRE CHIEFS. Annual meeting, St. John, N. B. Secretary, Chief Allan H. Clark, Lakefield, Ont.

Sept. 1-5—FLORIDA STATE FIRE COLLEGE. Units 106, 107, 205. For information contact Chief W. H. Barnett, P. O. Box 785, Ocala, Fla., Superintendent.

Sept. 2-5—OHIO STATE FIRE SCHOOL. Annual meeting, Ohio State University, Columbus, Ohio. For information contact Foss H. Gragg, Assistant Director, Division of State Fire Marshal, Columbus 15, Ohio.

Sept. 2-5—MARYLAND SHORT COURSE FOR FIREMEN. Annual meeting, University of Maryland, College Park, Md. Director, Robert C. Byrus, Fire Service Extension, University of Maryland, College Park, Md.

Sept. 11-12—JEFFERSON COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual tournament and convention, Black River, N. Y. Secretary, Jack Farrell, 513 Lakeview Drive, Dexter, N. Y.

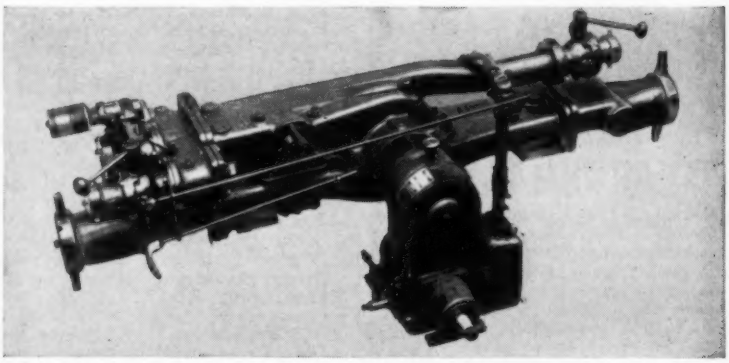
Sept. 14-17—PACIFIC COAST INTER-MOUNTAIN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Las Vegas, Nev. Secretary-Treasurer, Jay W. Stevens, Merchant Exchange Building, San Francisco, Calif.

Sept. 16-17—IOWA FIREMEN'S ASSOCIATION. Annual meeting and tournament, Bellevue, Ia. Secretary-Treasurer, Carl H. Fuchs, 749 Kinsey Avenue, Des Moines, Ia.

Oct. 20-22—THE NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting Kearney, Neb. Secretary-Treasurer, Russell D. Salak, P. O. Box 312, Schuyler, Neb.

For Flexible Performance

Specify HALE



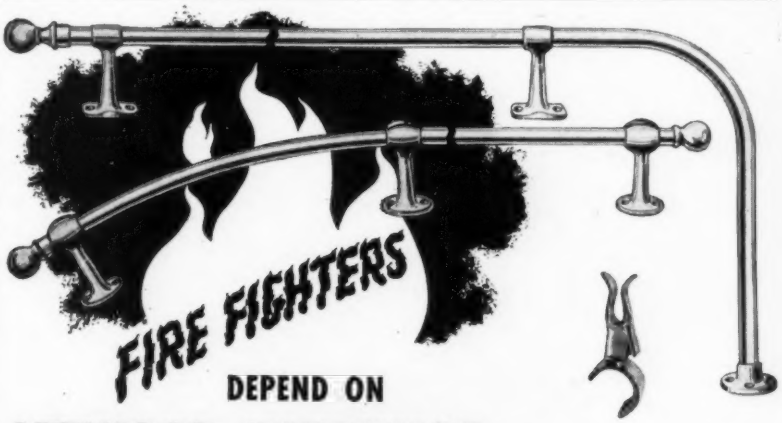
Flexibility of Performance (adjustability to a wide range of fire-fighting conditions) is a notable characteristic of the Hale series of multi-service Centrifugal Fire Pumps operated in Series for pressure . . . and in Parallel for volume.

Built in all standard capacities, they are highly efficient and dependable pumps designed for use with modern engines.

Make sure of the same flexibility and dependability in your next piece of apparatus by insisting on a Hale Fire Pump.

Write Today for Up-to-Date Information

HALE FIRE PUMP COMPANY
Conshohocken, Pa.



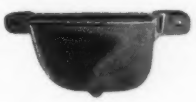
DEPEND ON

ATTWOOD HARDWARE

Fire fighting is an exacting occupation. One mistake may be the last.

Likewise, the manufacture of fire fighting trucks is a very exacting business. Every piece of equipment must be dependable to eliminate any chance of mechanical failure.

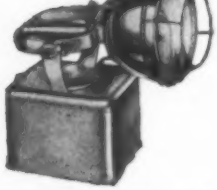
For many years Attwood has supplied over 90% of the fire equipment manufacturers with standard and special hardware and fittings.



Contact Attwood regarding the manufacture of equipment to your specifications.

ATTWOOD
BRASS WORKS
GRAND RAPIDS 4, MICHIGAN

CARPENTER LIGHTS



Instantly Ready

SEARCHMASTER

The Chief picks up his Portable SEARCHMASTER. He's inside the building in time to handle most fires before they get to the dangerous stage, and before floodlights can be set up. All the light you want at the snap of your thumb. Patented handle points anywhere *without cocking arm.* Rechargeable.

ALL KINDS OF EMERGENCY AND SPECIAL LIGHTS FOR CARS, PUBLIC UTILITIES AND INDUSTRIES.

CARPENTER LEADS THE WORLD IN PORTABLE AND EMERGENCY FLOOD and SEARCHLIGHTS

Write for Catalog showing many more Emergency Lights.

CARPENTER MFG. COMPANY

BOSTON 45 SOMERVILLE, MASS.

McINTIRE GATE VALVES

Fig. 164AN

4½" swivel female x two 2½" male Gated Siamese. Quick opening, ¼ turn valves.

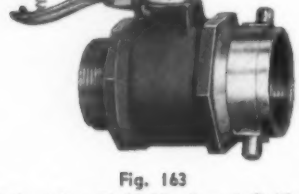


Fig. 163

Made either Right Hand or Left Hand 2½" male x female, gate valve.

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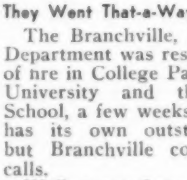
The WATCH DESK



Overhauling the firemanic news of the day

by ROI B. WOOLLEY

They Went That-a-Way!

The Branchville, Md., Volunteer Fire Department was responding to an alarm of nre in College Park, site of Maryland University and the Maryland Fire School, a few weeks ago. College Park has its own outstanding department, but Branchville comes in on certain calls.

Well, somewhere along the route the Branchville Brothers got off the beam and found themselves in the wrong part of town. With wide open siren they quickly circled the block and started back to the Boulevard (the main stem between Washington and Baltimore).

After completing the turn-around, Driver Willis Baker, not quite certain of his whereabouts, pulled over and asked a bystander just how to get to Girard street—Branchville's objective.

"I dunno where Girard street is" was the reply," but the fire is up that-a-way —I just saw a fire engine go by!"

What the bystander didn't realize was the fact that he was directing Branchville to turn around and follow itself around the block!

The moral, in case one's needed, seems to be "Know your territory—and don't believe everything you hear from the local yokels."

P.S. Branchville finally found Girard street and the fire.

Thanks, BOB BYRUS.

* * *

It's a Good Trick if You Can Do It—Chief!

In Merrick, L. I., a fire started by a trick exploding match caused damage estimated at $250 to the home of Merrick Fire Chief William Hoereth on the morning of March 4th, last.

Hoereth, who works for the Long Island Lighting Co. when not fighting fire, told police his son William, 8, was lighting some trick matches he had bought in a novelty store when the match head "flew off" and into a window curtain, which burst into flame. Young Hoereth crying "Fire Mommie," ran to the kitchen where his mother was working. Mrs. Hoereth sent the lad next door to neighbors, called firemen and proceeded to fight the fire with basins of water. The fire damaged walls and ceilings of the enclosed porch, but was almost out when the vamps arrived on the double.

Chief Hoereth termed the matches a definite menace and demonstrated to police that the head actually flies off the match when it explodes. He said that he and fire inspectors from his department scoured the neighborhood and confiscated the trick matches.

Thanks DR. N. V. COOPER

* * *

This Was One for the Blotter!

Battalion Chief Paul Kuveke of the Eleventh Battalion, New York Fire Department had the unique distinction of ordering all patrolmen out of their own police station—and making 'em like it! They went without a murmur—and gladly!

The occasion was a smoky fire in the basement of the West 100th Street Station (134 west 100th.) The time was 7:20 A.M. on the morning of April 17th, last. The fire, of unknown origin, caused considerable damage to ballot boxes and other equipment stored in the four-story brick building, erected in 1869.

The fire was discovered at 7:00 A.M. by a Patrolman and he and several of his mates fought the flames until 7:18 A.M. when the Fire Department was called. About that time the bluecoats beat a hasty retreat, and Lieutenant George MacManus, in charge at the Station moved his command to a garage a few doors away.

Police lines had to be established to hold back the hundreds of curious spectators.

The smoky fire gave "all hands" a rough time of it but they held the blaze to the basement and saved the venerable structure.

* * *

Firemen Find Flighty Upper Plate Before Man Starves

The scene was laid in a city that shall remain nameless; readers can guess the department, from the clues given. The plot begins with the local fire alarm office getting a call from a dentist that a set of choppers had fallen from his third floor window onto a skylight on the second floor of his building.

The Brothers obligingly came to the rescue with a pumper, a foam truck and emergency unit and nine men. Fireman Woodrow Harvey mounted a fire ladder to the second floor roof. With him went a 2½-inch hose line, hooked to a street hydrant. He opened up the pipe and out into Madison street, right in public and with everybody looking on, popped the full set of china! Fireman H. M. Miller retrieved the denture and Assistant Chief Joe Torres brought them back up to the dentist's office.

Quipped Fireman J. A. McCaskill in the emergency car: "It really was an emergency. That guy who lost his teeth was starving to death." Captain B. L. Nelms entered the 30-minute expedition in the Journal as "Services Rendered."

Thanks J. JEBENS

* * *

Tanker Truck Crash Sets Town Afire

A loaded 3,700-gallon gasoline tank truck collided with an automobile in the business district of the small east coast town of Maysville, N. C., April 11th, spraying flaming gasoline over US Route 17—the main street, threatening destruction of the business district of the town.

The driver of the car, J. Manley Foscue, 82, a retired farmer, was trapped in the machine and burned to death. The driver of the tanker, Grover Harrison, 40, crawled through a window and escaped. He tried to save Mr. Foscue but was thwarted by the intense heat of the fuel-fed flames, after his truck was tipped over by the impact.

A furniture warehouse and a filling station was destroyed by the fire and three other buildings suffered damage.

Volunteer firemen helped bring the fire under control in two hours.

Alarm Bell Balls Up Firemen's Ball

It happened again to the Milford, N. H., Fire Department.

Sure enough, on April 18, as usual in the past several years, just as tired members of the Milford Fire Department "hit the hay" after their third annual ball, the fire alarm bell sounded.

And, as usual, it was a false alarm.

Every year the prankster waits until "after the ball is over." Then, when the town of Milford is quieted down, and he's sure the smoke eaters are deep in the arms of Morpheus—he pulls Box 44.

Deputy Chief Robert H. Seavey said sleepily the next day:

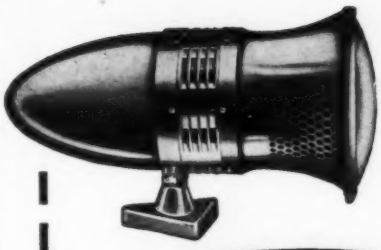
"It's under investigation."

TOM MAGNER

* * *

Hot Off the Tape

Forest Rangers are always telling people not to throw lighted cigarettes into the woods, but Mrs. Don Beckley of Funkstown, Md., wishes they'd be more careful when she's carrying a shopping bag. While waiting for a bus, after a shopping spree, Mrs. Beckley suddenly noticed smoke coming from her shopping bag. Someone had tossed a lighted fag inside, burning beyond repair a blouse she'd just bought—and damaging the bag as well. (Thanks Irving Johnson). . . . When Vernon Pressley, a Clairton, Mo., policeman on duty early one morning, heard a fire alarm and called the station to find out where the fire was, he was told "It's your place." Pressley made it to his home in nothing flat and carried out some of his personal belongings from his first floor abode. The blaze caused $500 damage. . . . A delayed item tells us about the unfortunate Vamps of South Fork, Pa., who were unable to arrive at the scene of an automobile blaze because they couldn't get out of their fire house. Spring mechanism and hinges of the door jammed. . . . For the past four years Pete Nordyke had been building a rural home in his spare time, 12 miles northeast of Mount Vernon, Conn. It was completed last April and all but one room had been furnished. On the 18th of April, Nordyke left for work and Mrs. Nordyke went visiting. During their absence the home burned to the ground. . . . Fire Chief Lewis Hackney of Versailles, Ky., got tired of being bothered by rubberneckers and sidewalk chiefs who ignored a city ordinance making it unlawful to follow fire apparatus. So he turned in an official false alarm one night. A fire truck sire-e-e-ned to a prearranged destination, and eight eager motorists who trailed it to see the excitement walked right into the hands of the gendarmes. . . . Mrs. Pauline Curley Bonnelli, former operatic soprano, died May 4 in a fire that destroyed her home in the Maverick Colony, near Woodstock, N. J. . . . Two boys admitted kindling a campfire that touched off a stockyard in Fort Wayne, Ind., which killed nearly 2,000 head of livestock and caused damage estimated at $300,000. . . . A meek voice asked Wakefield, Mass., firemen over the phone if they would do a woman a great favor. They indicated they might. "Well," asked Mrs. Arthur E. Goodwin, "will you turn off the gas in my home and save the carrots?" Mrs. G. explained she was in Topsfield, 20 miles away, and had left the gas burning under a pan of carrots. Firemen saved the vegetables—and possibly the house from an explosion.



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Alerting Volunteers

(*Continued from page 427*)

that could be dialed by the volunteers to obtain the desired information. A magnetic tape recorder with a continuous loop of tape that represents a 9-second message was devised. This was connected with the dial telephone system by installation of a ten-call telephone conference circuit, making it possible for firemen to dial a special three-digit code for immediate connection to the recorder.

When a call is received at the fire station—whether by telephone, box alarm or in person, the man on duty flicks a "main" switch on the recording machine to prepare it for operation (it normally requires 15 seconds to warm up electronic tubes). Upon receiving the location of the fire, he moves a "record" switch to "start" position and dictates the location of the fire into the attendant microphone, repeating it four times. This records the message on the magnetic tape, which is in effect an endless loop, and it is then ready for the "playback" that occurs automatically after a 10-second pause. When the machine starts playing the message just recorded, it is heard over the loudspeaker of the unit, which allows the operator to monitor and check what he has just recorded.

The man on duty then pulls an "automatic" switch, operating a set of bells located in each fireman's house and the fire house siren. Each bell and the siren are heard twice with a 25-second interval, and then the signals are automatically shut off. The fireman at home or elsewhere, upon hearing the bells or siren, goes to any nearby phone, dials, the special three-digit number, which connects him with the conference circuit to the recorder and hears the location of the fire being continuously repeated. Only firemen know the dial phone number, and this can be easily changed if it becomes too "common property".

After recording the location, and setting off the signals, the man on duty proceeds to the fire with the apparatus. The whole cycle takes about 30 seconds. The conference circuit will handle 10 calls simultaneously. Should a busy signal be received, the number can be re-dialed in 5 seconds. A new message can be recorded at any time by pressing a switch which wipes off the old recording. The recorder can be operated manually if power fails. A local battery hand set is provided so that one of the firemen can talk directly over the conference circuit in place of the recorder sending out the message. This can be a help in case of multiple alarms.

With the exception of the recording machine and allied equipment in the fire station, facilities of the telephone company are used to provide the signal bells in firemen's homes and the conference circuit. Bells installed by the company are connected through their cables to the exchange central office and the alarm board at the fire station. The entire system is easily maintained and operated.

Not every fire department can adopt this system, not having constant attendance at the fire house. Therefore, it is necessary for those departments to bring the volunteers to the fire house to learn the location of the emergency. All of which presents other problems of alerting.

Volunteer ingeniousness, however, has

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116 Years in Fire Service

developed a number of solutions to these problems. In one small community in Illinois (population 600) the volunteers managed to install a modest fire alarm system consisting of 19 old boxes and the necessary code equipment. All alarms are received at a railroad watch tower (the only 24-hour source). The railroad watchman can either phone the fire station or transmit a signal via his code instrument indicating the location.

The heart of the system is an automatic annunciator located at the fire house. When a code is received over the system, the location address is registered in large print on this locator-alarm, as it is called. As this is done, four things happen: (1) the siren (a 5-h.p. job) lets loose for one minute, (2) the lights in the fire station are turned on and remain so for four minutes, (3) the fire station door opens and also remains in that position four minutes, and (4) blinker warning lights located at main street intersections flash a four-minute warning.

The locator-annunciator displays the location of the alarm for a full nine minutes (for the benefit of firemen who can't arrive in time to catch the truck but who want to know where the fire is).

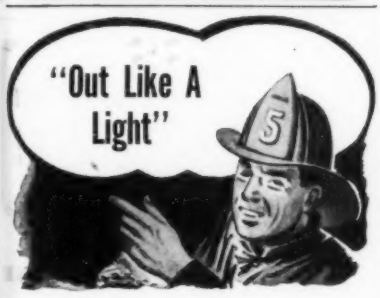
Another form of annunciator is used by a New Jersey volunteer department. This consists of an illuminated panel located over the door of the fire station and operated by a small switch board in the house. As apparatus responds to a real or "phantom" box alarm, the number is flashed on this panel and remains there until removed after the incident. Thus firemen who cannot hear the town's only air horn which is located some distance away, can quickly pick up the information as they pass the fire station, without leaving their cars to go inside and look at the tape, as was formerly necessary.

Of course, excellent as these developments are, they cannot take the place of the modern coded signal, whether horn, whistle or siren, operated by a simple transmitter located either in an attended fire station or some other suitable location. This system can be augmented by auxiliary sirens of some kind which will give a preliminary notification of a coded signal to follow, or by installing duplicate coded instruments. The combination siren and horn system has the added advantage that the sirens can be used to sound air raid warnings, thus reserving the code signals for fire calls.

These are only a few of the different systems used for notifying the volunteers. Obviously there is least delay when firemen proceed direct to the scene as indicated by an audible coded signal instead of reporting to their fire stations. The problem, however, has been to make the signals heard by fire fighters who may reside in the "wide open spaces".

In order to get a sufficient working force of volunteer fire fighters started to the scene of an emergency at any hour of the night or day without delay under these conditions, some method of direct or selective notification is desirable. This can be combined with a general public alarm, or not, as desired. However, many believe that even where key men are to be notified by some selective means, it is advisable to sound some sort of general warning.

This selective calling has always been a problem for volunteers. In many small departments, officers and other key persons were (and still are) notified by telephone—the operator either calling a



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selected list, or the men phoning in for the information. The drawbacks of this method should be obvious.

Some communities have attempted to install alarm devices in each fireman's home. Although this has increased response, it has not fully answered the question of how to alert firemen who work in store and factory and cannot hear the public call. One Canadian town has installed a buzzer system operated by circuits carried on light poles with lead-ins to each fireman's residence terminating in buzzers and bell transformers. The system is operated by control switches located at three different points—one in the telephone exchange, where alarms are received, one in the town hall, and the other on the outside of the fire station. The latter is intended for the use of the public. It is planned eventually to extend this system to each fireman's place of business or at least those not in range of the fire bell which sounds the public alarm. This system is said to have originally cost about $500, but whether or not it could be applied in this country is problematical.

Radio—The Most Modern Development

Until and unless volunteer departments maintain round-the-clock watch service, and satisfactory coded notification, it will be necessary to have some form of selective alerting of at least the key members of volunteer forces. Radio in one form or another offers the greatest hope for such selective alerting, just as it does for other fire service communications.

At least one prominent radio manufacturer has developed a home receiver unit for quickly calling into action volunteer and reserve firemen, on a selective basis. This system is designed to tie in with existing fire department radio systems. It is compact, simple and operates on AC power in the 152-162 mc radio band. It requires an inconspicuous 17 inch wire antenna on the roof.

The receiver, under operating conditions, remains on standby 24-hours a day, staying silent until a message is dispatched. A device insures silence in the receiver at all times by locking out everything except the desired message.

By means of this device the dispatcher at the fire station may activate all receivers in the system simultaneously, or call any single receiver of his choice. When a dispatcher transmits a message, the house receiver comes on and the message is heard in the home. After the message is given, the receiver remains on and squelch noise is heard continuously until the person called goes to the receiver and turns it off manually. In the event any member of the department is not at home when called, he finds the receiver on and squelch noise coming through the speaker. The noise serves to inform him of the call made in his absence, and he may then telephone headquarters for information and instructions.

Use of these selective calling receivers, tied in with regular fire department radio system, make it possible to round up the department (or a major part of it) for action on a moment's notice without valuable time lost in phoning or otherwise notifying men individually at the time of an emergency.

Another development that has attrac-

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ted much interest is the utilization of "wired radio" or "carrier current" for this silent alerting. This system is in practical operation in at least one Long Island, New York, community.

This system operates on the power circuits of the local lighting company and is supplemental to the regular Class B local fire alarm system, which has 71 fire alarm boxes in the 3.7 square miles of the village. It was devised to insure a sufficient number of its fire fighters in all areas reaching the scene of an emergency without accoustical, traffic or other interference.

Alarms are received at either the Police Department or the fire alarm headquarters. Box alarms are transmitted automatically to all fire houses, telephone or "still" alarms being telephoned to selected fire companies. There are a number of auxiliary sirens mounted throughout the village, and a large three-way master air horn is on a tower at the municipal lighting plant. A large uncoded electric siren is also mounted at police headquarters. This has a control for a 15-second blast on still alarms. The other sirens have timer units to control length of time of signals. Only the air horn is coded. Although its signal should reach all parts of the village, it has not done so, hence the necessity of selective notification of volunteers.

This is accomplished by means of the "silent alarm". This consists of a transmitter at the power plant so coupled to the distribution system as to carry signals over the wire into houses equipped with a special receiver tuned to receive them. Relays provide for automatic transmissions without delay of box (and any other) signals direct into the homes or business places of the 100 or more selected volunteers having them. The system operates on a carrier frequency of 3,800 cycles, high enough to eliminate interference with wired radio used to operate street lights, water heaters, etc., and to reduce signal interference to the minimum. The operating motor generator set at the light plant is automatic and is easily maintained.

The receiver unit placed in the home of the fireman—or his place of business—measures 6 x 6 x 9 in., is portable and has a gong or single stroke bell, an "OFF-ON" switch and an indicator lamp which lights up when the unit is plugged in. If desired, the receiver can be made to flash a coded number in lights without ringing the bell, as might be desired in a place of business. The device consumes little current. Units are loaned to firemen and remain the property of the department. Users must abide by the rules governing their use and maintenance. It is possible to use this type of unit for alerting all active members of a volunteer department without notification to the public that an emergency has occurred.

These are but a few of the more outstanding developments in the field of volunteer Fire Service communications and alerting. There are other developments in the offing, and it will pay the volunteer departments to keep abreast of these developments.

Summary and Recommendations

The very best of communications are essential to the volunteer no less than the full-time municipal Fire Service. Volunteer departments should not lessen

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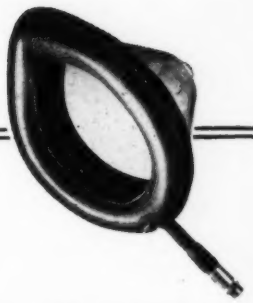

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their efforts to secure the most modern communication facilities.

An essential to successful operation of these modern communications is a 24-hour-watch-service, either at the fire house or some other local agency, preferably the former.

The telephone is unreliable for reporting fires and alerting volunteers and should not be depended upon as a primary communications facility.

Where firemen cannot be alerted by any public or general signal, some sort of selective alerting system should be employed.

Where the telephone must be used, the education of citizens, telephone operators and the fire forces is desirable to insure the most satisfactory operation of this medium. Cooperation of telephone company officials should be enlisted with a view to securing the fullest usefulness out of the installation.

A universal telephone number, for use on all dial and other phones for fires and other emergencies would be helpful. Provision should be made in some way to overcome the handicap of not having a coin to operate dial phones in an emergency. Overlapping telephone exchanges also constitute a hindrance and should be eliminated insofar as fire calls are concerned.

Fire Fighters Chart System for Rural Area

Members of the five volunteer departments in Mecklenburg County, N. C., met March 4th in Mecklenburg courthouse and organized a control center for all fire calls in the area of the county outside the City of Charlotte. Chief Stanhope Lineberry presided over the meeting.

A new development in the volunteer fire protection movement came when it was announced that the Derita squadron of the Civil Air Patrol, with planes based at the Brockenbrough airport, will fly one air patrol per day. These planes will be connected by short-wave radio with the county police.

Now operating in the rural areas of Mecklenburg County are the Wilkinson Boulevard, Pinoca, Woodlawn, Newell and Derita volunteer departments, with units in progress of organization at Oakhurst and Long Creek. D. G. SPENCER

Fire Victim Rewarded

William (Bill) Forte, of Naugatuck, Conn., a blind ex-boxer, and his two motherless children were burned out of their trailer home recently on the New Haven road in that town.

To Forte, that was another tough blow, but not daunted, he carried on with the aid of neighbors. His plight was brought before a nation of televiewers on a coast to coast show when Bill and his two youngsters, Leona, 9, and

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Closing date for copy 25th of month preceding date of issue.

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DEALERS WANTED

for the Fogg-It "Triple Jet" Safety Nozzle. A real fast mover! Some territories still open for qualified state-wide distributors. Write Fogg-It Sales Co., Dept. 3B, Box 1985, Modesto, California.

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CONNECTICUT—All counties east of the Connecticut River to aggressive salesman to sell well-known fire apparatus. Box 335, c/o FIRE ENGINEERING, 24 West 40th St., New York 18, N. Y.

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1½"x50' DJ CRL fire hose, unused, but soiled	$ .58 ft. cpld.
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1½"x50' SJ CRL fire hose	$ .37 ft.
1½" Couplings attached	$ 4.50 set
2½"x50' SJ CRL fire hose	$ .64 ft.
2½" Couplings attached	$ 6.75 set
2½"x16' Hard suction hose	$14.50 lgth., cpld.
1"x50' Booster hose	$ .33 ft.
4"x16' DJ Soft suction hose, 4½" couplings, long handle female	$16.50 lgth., cpld.

BRASS ITEMS

1½" fog nozzles, 3 position (Well Known Brands) w/4' applicator	$22.50 *
Mechanical Foam Playpipes (Leading Manufacturer) w/adapter (Cost $50.00 ea.)	$ 8.50 ea.
2½" Shut off nozzles w/ladder hook	$37.50 ea.
2½"x1½"x1½" leader line siamese w/quarter turn valves	$24.50 ea.
2½" nozzle holders	$ .95 ea.
2½" hose caps & chains	$ 2.50 ea.
2½" double females	$ 7.50 ea.

* Complete.

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NEW JERSEY—All counties north of Camden open to aggressive salesman to sell well-known fire apparatus. Box 325, c/o FIRE ENGINEERING, 24 West 40th St., New York 18, N. Y.

FOR SALE

1951 John Bean High Pressure Fog Engine on 2-ton Chevrolet; 1951 Water Tank Truck, 1350 gal. on 2-ton Chevrolet; 1951 Ford Fire Chief's car.
All equipment like new, used 4 months. For details write Box 340, c/o FIRE ENGINEERING, 24 W. 40th St., New York 18, N. Y.

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NEW YORK—Westchester, Putnam, Dutchess, Orange and Rockland Counties open to aggressive salesman to sell well-known fire apparatus. Box 339, c/o FIRE ENGINEERING, 24 West 40th St., New York 18, N. Y.

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WANTED

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The unit is self-contained . . . complete with pressure proved cylinders, regulators, hose and non-backfire cutting torch. Order a set today. Carried by leading fire departments in the country.

The WELDERS SERVICE CO., Inc.
229 Blvd. of Allies, Pittsburgh 22, Pa.

BADGES

Quality
Service
Satisfaction

EVERSON-ROSS
88 CHAMBERS ST NEW YORK 7 N Y

Billy, 5, told their story.

Then things began to happen. Leslie Hutchinson, owner of a trailer coach company at Drayton Plains, Mich., offered the Fortes a new trailer home, which Bill accepted for the family. Contributions of money and clothing came from all parts of the country. Firemen at Naugatuck also contributed to the cause.

The climax came at the New Haven Arena, where Forte received title to a 26-foot Pontiac model house trailer worth $3,500 at the opening ceremonies of the Connecticut Trailer Coach Exposition. He also was promised the "works" on the site he selects—all connections so he could move right in, free of any charge.

TOM MAGNER

Rash of Prison Riots and Fires

A rash of prison riots, some of them involving set fires which gave fire fighters dangerous work, occurred during April and May, in this country and Canada.

The one which caused the heaviest damage, and to some extent touched off the others, occurred April 21 last in the Southern Michigan Prison, Jackson, Mich., where 2,600 unruly prisoners seized prison guards as hostages, and staged a wild 8-hour riot before they were quelled. During their rampage they set fire to several of the penal institution's buildings, including the mess hall kitchen. Heavy damage was done by the fires alone.

Prison fire fighters, unable to cope with the situation, summoned the aid of the Jackson Fire Department, which sent apparatus and men to the scene. These forces had to be escorted into the prison grounds under heavy guard, as is shown on the cover illustration of this issue.

In this, as in other prison outbreaks, fire fighters were called both to subdue fires started by rioters, and to help subdue the rioters themselves by use of fire hose streams.

On May 20th, 400 rioting prisoners seized virtual control of Utah's new State Prison, "Point of Mountain", 20 miles south of Salt Lake City. Guards were held as hostages here also, but no fires were started. Municipal firemen from Salt Lake and other fire departments, however, aided local firemen to augment the yard's lighting apparatus, and fire fighting equipment.

On May 4th, hundreds of prisoners in the Bordeaux Jail, Montreal, Canada, battled authorities, including 1,000 policemen and firemen for five hours before they were subdued by tear gas and hose streams. In the melee, the rioters set fire to the chapel, kitchen, the main switchboard and two cell blocks and other installations. It took firemen three hours to bring the fires under control.

The sixth major prison riot took place May 24, when 300 prisoners at the Idaho State Penitentiary, Boise, Idaho, rebelled for more than four hours before a tear gas barrage broke up their riot. The men had access to 400 gallons of fuel oil, which they used to burn prison facilities.

The fires reportedly would have been far more destructive had it not been for the automatic sprinkler system with which the prison is equipped. The building housing a recreation room, laundry and auto license shop was considerably damaged.

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Safeguard lives and property with FIRE-LITE and make big profits! FIRE-LITE is a new, low cost system that automatically and instantly detects fires, sounds a shrill, loud alarm, arouses family before fire gains headway.

We supply demonstrator alarm, sales plan and illustrated book that clinches sales! Every man wants to protect his family and property. You can easily sell that man a FIRE-LITE and make money!

Write Today for Information
Approved for FHA Financing

FIRE-LITE ALARMS
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KEYPORT, N. J.

ALL-OUT - ALL-OUT - ALL-OUT - ALL-OUT

One playpipe enables you to put out flammable liquid fires, bad spill and crash fires. Multiplies fire-fighting capacity of a limited water supply.

EACH OF YOUR PUMPERS SHOULD CARRY A

Pyrene® AIR FOAM PLAYPIPE

A Pyrene* Air Foam Playpipe multiplies the efficiency of every pumper. Just ask any of the thousands of fire departments now using them! For each gallon of Pyrene Air Foam Compound and 20 gallons of water, the playpipe produces 350 gallons of fast-acting foam. It's *sure death* to both flammable liquid fires and those in ordinary combustibles. May be used with booster tank and ¾" to 2½" hose.

$63 is all it costs to equip a truck with a Pyrene Playpipe, pick-up tube, hose adapter, and 5 gallons of Pyrene Air Foam Compound. You can't afford *not* to do it! Write for name of nearest Pyrene Air Foam jobber.

*T.M. Reg. U.S. Pat. Off.

PYRENE MANUFACTURING COMPANY

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Affiliated with C-O-Two Fire Equipment Co.

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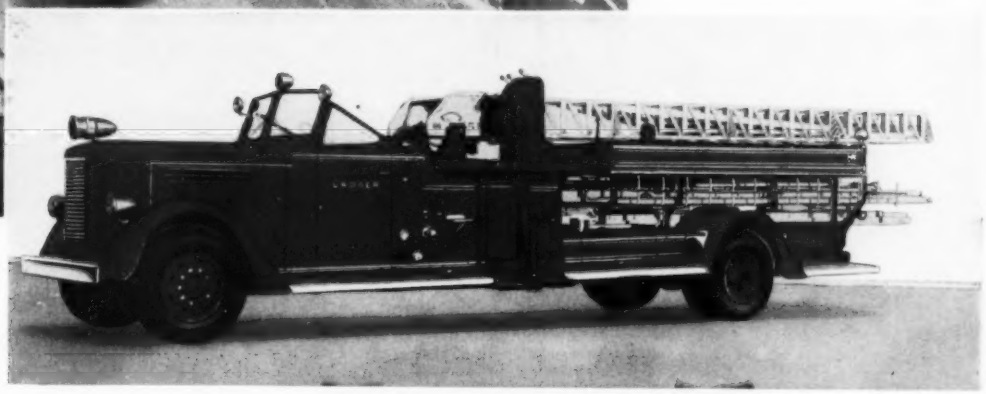

PIRSCH PIONEERED MANY FIRSTS

The All-Powered Aerial Ladder Truck, the metal aerial ladder and the 100′ ladder are just a few of the "Firsts" in the fire apparatus field pioneered by Pirsch.

Dependable and unfailing service is required of fire apparatus in protecting lives and property from destruction. Pirsch experience built apparatus provides that type of performance.

65′ Intermediate aerial above is one of eight Pirsch aerials delivered to City of Boston.

PETER PIRSCH & SONS CO. KENOSHA, WIS.

"BUILDERS OF AMERICA'S FIRST ALL-POWERED AERIAL LADDER TRUCK AND AMERICA'S FIRST 100′ AERIAL LADDER"

Clear Lake, Iowa chooses

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Still another Iowa community has recognized that loss by fire in a rich agricultural and resort area is best controlled by FWD equipment.

In selecting Model F75T, Clear Lake has gained the safety and traction of 4 wheel drive as well as protection. This 200 hp truck is equipped with a 200-gallon booster tank and 150 feet of ¾" hose on a reel. The hose body has capacity for 2000' of 2½" hose. Also, 2 sections — 10' x 4½" and 1 section — 10' x 2½" suction hose and accessories. Pump is 2-stage, series parallel, centrifugal with bronze case. Capacity is 750 gpm at 150 psi.

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Throughout the nation, the trend is to FWD Fire Engines. In both rural and urban communities, crews know they can depend on four-wheel-drive traction to help save time on every run. FWD provides maximum safety for crews, equipment *and* other vehicles. FWD equipment and accessories also deliver extra action and dependability at the blaze.

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FWD

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